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DEPARTMENT OF TRANSPORTATION AND RELATED AGENCIES APPROPRIATIONS FOR 1987

COMPLETED
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187
ORIGINAL

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS
HOUSE OF REPRESENTATIVES

NINETY-NINTH CONGRESS

SECOND SESSION

SUBCOMMITTEE ON THE DEPARTMENT OF TRANSPORTATION AND RELATED AGENCIES APPROPRIATIONS

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PART 6

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DEPARTMENT OF TRANSPORTATION:
Federal Aviation Administration 185
Office of the Secretary 835
RELATED AGENCY:
National Transportation Safety Board 1

Printed for the use of the Committee on Appropriations

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DEPARTMENT OF TRANSPORTATION AND RELATED AGENCIES APPROPRIATIONS FOR FISCAL YEAR 1987

THURSDAY, MARCH 6, 1986.

NATIONAL TRANSPORTATION SAFETY BOARD

WITNESSES

THE HONORABLE JIM BURNETT, CHAIRMAN
PETER KISSINGER, MANAGING DIRECTOR
HERBERT W. R. BANKS, DIRECTOR, BUREAU OF FIELD OPERATIONS
CHARLES H. BATTEN, ACTING DIRECTOR, BUREAU OF ACCIDENT INVESTIGATION.
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RONALD L. SCHLEEDE, CHIEF, AVIATION ACCIDENT DIVISION, BUREAU OF ACCIDENT INVESTIGATION
BARRY M. SWEEDLER, DIRECTOR, BUREAU OF SAFETY PROGRAMS

Mr. LEHMAN. The Subcommittee will come to order.

This morning we will receive testimony on the fiscal year 1987 budget request for the National Transportation Safety Board.

Our principal witness today is the Chairman of the Board, Mr. Jim Burnett.

We will be pleased to hear your statement at this time. You may read it, or if you would prefer to summarize it, we shall insert your entire statement in the record.

Mr. BURNETT. Mr. Chairman, I have submitted my statement for the record and——

Mr. LEHMAN. Go for questions?

PREPARED STATEMENT

Mr. BURNETT. If you will just go ahead with questions, we will be pleased to answer them. I would like to introduce the staff that I have with me here, for the record. On my far right is Mr. Mike Levins who is Director of our Bureau of Administration.

Next to him is Mr. Herb Banks who is the Director of our Bureau of Field Operations.

Next to Mr. Banks is Mr. Les Kampschror who is Director of our Bureau of Technology.

To my immediate right is Mr. Peter Kissinger who is the Managing Director of the Safety Board.

To my immediate left is Mr. Ron Schleede who is the Chief of our Aviation Accident Investigation Division, and, to Mr.

Schleede's left is Mr. Charlie Batten who is the Acting Director of the Bureau of Accident Investigation. He is sitting in for his boss who is detailed to NASA on the space shuttle accident investigation.

And to my far left is Mr. Barry Sweedler who is the Director of our Bureau of Safety Programs.

[The statement of Mr. Burnett follows:]

Mr. Chairman, Members of the Committee, I am pleased once again to have the opportunity to appear before you to discuss the National Transportation Safety Board's activities and budget needs. This Committee is a valued supporter of the Safety Board's mission. Your keen interest in and support for our activities has been a source of continuing pride for the Board and its staff.

That support was all the more meaningful during a year such as 1985 in which accidents so dominated the news. Safety Board accident investigators performed in a highly competent manner in the face of mounting Congressional, media and public concern about aviation safety. On behalf of the Board, I want to express my deep appreciation and high praise for the professionalism of these staff members, as well as those who work in the other less visible transportation modes in the Washington and field offices.

The accomplishments of the staff are a reflection of the fine management team assembled here at this table. I would like to introduce them to the Committee at this time.

Aviation

This past year, unfortunately, has been marred by spectacular aviation accidents, spreading the Safety Board's staff literally around the world. And the work has hardly been "routine" -- investigators have climbed the heights of the Andes and scoured the floors of the Atlantic in search of accident clues. Most recently we were asked to participate in the investigation of the Challenger shuttle accident, expanding our horizons even into space transportation safety.

Human Performance

I'd like to review a sample of the Board's workload for the past year, beginning with the crash on takeoff of a Galaxy Airlines Lockheed L-188 from Reno in January. Citing a "breakdown in crew coordination", the Board determined that the probable cause was, essentially, failure of the crew to fly the airplane while troubleshooting a vibration. Repeated findings of inadequate cockpit resource management, among other issues of human error involvement in accident causes, led to formation of the Safety Board's Human Performance Division in 1983. This new division has paid off in a number of accident investigations, and we consider it key in attempting to understand and beginning to resolve many of the "whys" behind human performance failures in all modes of transportation.

Another example of problems with crew coordination in the cockpit was the in-flight upset in February of a China Airlines B-747. You may recall that we discussed this incident last year, Mr. Chairman, in which the airplane entered an uncontrolled descent from 41,000 to 9,500 feet before the pilot was able to restore it to stable flight. The Board just this week considered the final report of this incident. Since several Members of this Committee expressed an interest in viewing computer graphics generated by Safety Board lab technicians, we have provided a video cassette recorder to display a brief presentation as used in an NBC network news broadcast.

Runway Incursions

An even more potentially disastrous aviation incident took place shortly after my appearance before this Committee last year -- the near collision of two DC-10 airplanes with a total of 501 persons on board on a runway in Minneapolis. This was one in a series of what appears to be increasingly frequent runway transgressions. Concerned that runway incursions were becoming a significant safety issue, the Board launched a special investigation to determine the severity of the problem. Our findings thus far suggest that most of these occurrences result from miscommunication, misunderstood clearances or key personnel simply forgetting the clearances or the location of aircraft that present a hazard to one another. Generally, human error on the part of pilots and controllers underlie the causes of these potentially catastrophic incidents.

The type of runway accident we feared took place in June when a National Guard RF-4C collided with a Smith Air Beech E-185 in Birmingham, Alabama. Both aircraft were complying with air traffic control instructions which, in this case, were conflicting. The pilot of the Beech aircraft was killed.

Demands on our aviation staff have pushed completion of the runway incursion investigation from late 1985 to the spring of 1986 or beyond.

Wind Shear

In view of our numerous references in the past to weather problems, it is not surprising that the worst domestic aviation accident this past year took place during a severe wind shear occurrence. Extreme weather phenomena have plagued aviation from its inception, and accidents such as the one at the Dallas/Ft. Worth Airport in August involving a Delta L-1011 cause us to wonder if we will ever solve the problem. Despite increased training, alert systems and more sophisticated weather monitoring devices, pilots still can't seem to be able to avoid wind shear associated with thunderstorms.

The Dallas accident, as did many others before it, provoked renewed demands for the funds necessary to implement state-of-the-art detection technology. The Safety Board is on record firmly in favor of a priority program to purchase the doppler radar hardware for major terminal areas and to pursue aggressively research and development of the software programs needed to automate the radar data presentation.

Since 1970 wind shear has been identified as a cause or contributing factor in 17 accidents involving transport category airplanes. Six of these accidents were fatal and have accounted for 440 lives. These figures likely will be revised to include the Delta L-1011 accident when that investigation is completed, adding yet another 135 lives lost.

Foreign Investigations

This past year was the worst in terms of overall fatalities in the history of aviation. Foreign carrier accidents tipped the scales as we witnessed the horrors of the Japanese Airlines B-747 crash into the mountains, the British Airtours B-737 accident at Manchester, England and the Air India B-747 plunge into the sea. And, in our own back yard, a U.S. carrier crashed in Gander, Newfoundland, taking the lives of 248 U.S. service men and women. The Safety Board has participated extensively in all these diverse investigations, including the expenditure of $350,000 from our emergency fund to help salvage parts of the Air India B-747 from the Atlantic Ocean.

A one-of-a-kind Safety Board activity involved a rigorous mountain climb by one of our field investigators to the crash site in the Andes of an Eastern B-727 that went down on the first day of 1985 en route to LaPaz, Bolivia. The site was reachable only on foot, and we organized this expedition in the hopes of recovering the flight recorders to assist in determining what happened to that flight. Unfortunately, the expedition was unsuccessful due to the amount of snow which covers the wreckage year-round, and the cause of the crash may never be known.

The Challenger

After such an unusual year, the Safety Board once again has found itself in unchartered territory -- that of spacecraft investigation. At the request of the National Aeronautics and Space Administration (NASA) we have detailed several investigators to assist in the wreckage recovery and reconstruction portion of the investigation into the tragic shuttle accident. This assistance will be available to NASA as long as it is needed.

Rail Alcohol Rulemaking

While the Board's aviation workload was dictated by heavier-than-usual accident investigation activities in 1985, we were able to focus our efforts on longer range issues and objectives in the other modes.

For example, a high safety priority item on the Board's agenda for many years has been implementation of a rule to prohibit railroad employees from reporting to work impaired by alcohol or drugs. After untold hours of work by many safety professionals, the Federal Railroad Administration issued its long-awaited final rule in August 1985, which was scheduled to go into effect in November. The implementation date was delayed by a U.S. Court of Appeals "stay" that was vacated by a Supreme Court Justice in January 1986.

The Safety Board takes great pride in the accomplishment of this safety objective, and we believe its implementation and enforcement will be highly cost beneficial in terms of lives and property lost.

Railroad/Grade Crossing Safety

Responding to a long-standing objective to improve safety at railroad grade crossings, the Board has undertaken a study of passenger train collisions at railroad grade crossings. Our concerns are heightened by the potential for disaster posed by vehicles carrying hazardous materials colliding with passenger trains, and the high number of fatalities and injuries that continue to occur at grade crossings.

Issues currently under investigation include routing, driver behavior, audible warning systems and ground clearance. The study will be developed from 75 in-depth accident investigations involving passenger train collisions with motor vehicles.

New York Subway Fires

Safety Board concerns about the large number of fires occurring on the New York City Transit Authority (NYCTA) subway system prompted initiation of a special investigation that was completed in October 1985. Formulating an unprecedented "go-team" task force, we examined the issue of fire safety as it relates to track and structures, electrical equipment, car equipment, train operations, emergency response activities and data collection.

The resulting report accompanied a number of recommendations directed to the New York State Public Transportation Safety Board regarding actions the NYCTA should take to improve subway fire safety. We will be working both with the State Safety Board and the NYCTA to follow up on these recommendations.

Occupant Restraint Performance

A major Safety Board undertaking in the highway mode is a safety study of the performance of occupant restraints in survivable motor vehicle accidents. Despite increased government and private emphasis on the importance of seat belt use, there is surprisingly little real-world information on its performance. This effort is more crucial than ever in view of the increasing number of states passing laws to require seat belt use.

The study will be based on in-depth investigations of about 200 crashes in which at least one person was belted. It will be divided into two parts. The first part will address the performance of lap belts while the second part concerns the performance of lap-shoulder belt systems. The lap belt portion is targeted for completion in April or May, and the other is due by the end of 1986.

Heavy Truck Study

One of the most persistent and complex highway safety problems involves heavy trucks. The Safety Board has investigated many truck accidents over the years and issued numerous safety recommendations on truck safety and driver qualifications, licensing and training. In 1980 we completed a study in some detail on driver qualifications, recommending changes in the federal regulations as well as the National Driver Register.

In view of mounting concern about the dangers posed by heavy truck accidents, we initiated a safety study last fall on driver qualifications which will include a review of training, state licensing and federal regulations for interstate drivers. A second phase of this project will include in-depth investigations of approximately 150 accidents, focusing on operational issues such as fatigue, alcohol and drug abuse and, potentially, some issues of vehicle performance.

Schoolbus Safety

For the past several years, the Safety Board has been conducting in-depth investigations of shoolbus accidents, focusing on crashes involving large post-standard schoolbuses. More than two-thirds of the 60 cases we have investigated involve this type of bus. Safety Board field investigators have looked at all kinds of crashes -- rollovers, side impacts, frontal and rear collisions -- and, in contrast to past Board investigations, did not limit the investigations to crashes that produced fatal or serious injuries.

Analysis of these cases is underway. We will be looking closely at the question of the potential effects of occupant restraints in large and small schoolbuses. The final report and our recommendations are expected this summer.

Passenger Vessel Safety

The grounding of the U.S. passenger vessel Pilgrim Belle on a reef off Massachusetts last July prompted a two-day Safety Board hearing. The 192-food cruise vessel ran aground on the second day of what was to have been a seven day cruise. The 94 passengers were taken aboard safely on numerous smaller vessels and there were no injuries.

Although the number of accidents involving large passenger cruise vessels and ferries is low, the Safety Board is concerned that the safety requirements are keyed to the gross tonnage of the vessels rather than the number of passengers at risk. The regulations as applied to tonnage have tended to reduce the manning requirements and lifesaving equipment carried, thereby increasing the probability of greater loss of life in a disaster.

For example, it is possible under certain circumstances for passenger vessels not to be required to carry sufficient lifesaving equipment on board to provide emergency flotation support for all of the embarked persons. In addition, reduced manning and licensing requirements had led to lower crew-to-passenger ratios. Consequently, fewer crewmembers are available to tend to passenger safety in any emergency, and less stringent licensing requirements for the officers has tended to reduce the navigational safety of the small passenger vessels.

The Safety Board is working with the Coast Guard to find solutions to these and other problems.

Pipeline Safety

An issue of increasing concern to the Board is the number and potential severity of pipeline ruptures due to corrosion. In April 1985 a natural gas pipeline explosion near Beaumont, Kentucky resulted in the loss of five lives. Three explosions were experienced by this same company in that state in the last ten months, and corrosion played a part in at least two of the three. This illustrates the need for improved cathodic protection, maintenance, casing monitoring and corrosion prevention.

In October the Board held a hearing in Houston, Texas to examine the problem of corrosion, including the use of encased pipelines. An analysis of the information gained at the hearing, as well as data collected in past investigations, will be included in the final report of the Beaumont accident. It is likely that recommendations regarding corrosion problems and encasement of pipelines will be addressed.

Hazardous Materials

In the recent past the Board has investigated accidents that raised concerns about the routing of hazardous materials and emergency preparedness. Currently under investigation is an accident that involved the release of a hazardous waste material on the Beltway in Fairfax County, Virginia. The information carried onboard the tank truck was inadequate in that there was no product-specific emergency response information to inform emergency response personnel about the composition and hazards of the material, nor could the emergency response personnel readily contact a responsible party to obtain the information.

Last year the Board investigated a release of a hazardous material in a railroad yard in North Little Rock, Arkansas. The investigation resulted in the recall and retrofit of more than 9,000 tankcars. In April 1985 the Board published a report on a recent railroad yard safety, hazardous materials, and emergency preparedness study that included recommendations to the railroads, the Federal Railroad Administration and the Federal Emergency Management Agency. These recommendations called for the railroads and communities to prepare for the problems they may face if confronted with a hazardous material release. In April 1985 the Board published the report of a release of hazardous materials near Clay, Kentucky and this report also recommended that the railroads and local emergency agencies prepare for problems associated with the release of hazardous materials.

Budget Request

For Fiscal Year 1987 the Board is requesting $21,430,000 which will fund 306 full time equivalent positions. This represents a ten percent reduction from our OMB personnel ceiling for Fiscal Year 1985 which was 340 positions.

Our Fiscal Year 1986 budget has been reduced from $22,300,000 to $21,341,000 as a result of the GRAMM-RUDMANN-HOLLINGS sequestration order, so cutbacks already are underway. Since this cut came after the year had begun and since it costs money to fire people and since we would like to avoid a reduction in force if at all possible, we plan to cut back to approximately 324 FTE positions this year by controlling our hiring. However, to maintain that level of employment and still balance the books at the end of the year, we have had to cut back substantially on items such as training and the procurement of laboratory and computer equipment. We cannot afford to sustain these kind of cuts beyond this year without longer term consequences on our effectiveness and productivity.

The Safety Board will make the necessary sacrifices in support of the efforts of the President and the Congress to reduce federal deficits. In order to cope with these budget and staffing cuts, we have and will continue to emphasize improved efficiency, productivity and cost savings. The Board also will continue to ensure that every dollar appropriated for its programs is spent to maximize the safety benefits achieved.

That completes my formal statement. I will be pleased to answer your questions.

GRAMM-RUDMAN-HOLLINGS

Mr. **Lehman**. Before discussing your fiscal year 1987 request, could you tell us what the impact on the Board will be in fiscal year 1986 as a result of the reductions required by the Gramm-Rudman-Hollings legislation?

Mr. **Burnett**. Mr. Chairman, the Congress appropriated us at a level that would have sustained 338 staff members for fiscal 1986. As a result of the Gramm-Rudman reductions, we have moved down to a level of about 324, which we can sustain, so we are going to lose about 16 staff positions, and we are going to take those across the board.

Basically, we have taken that by attrition, and so it is kind of a "hit or miss" proposition where it falls. It is going to delay the Board's work in a lot of areas, but we have not made any programmic reductions because of that.

We are just going to have a backlog building in some cases.

Mr. **Kissinger**. The only thing I might add is it is also going to require deferment of some laboratory and computer equipment purchases.

Mr. **Lehman**. Your justifications indicate that as a result of Gramm-Rudman your fiscal year 1986 fulltime equivalent employment will be reduced by 14 work-years. Can this reduction be accomplished by normal attrition?

[The information follows:]

Yes; we are hopeful that through stringent management planning and control of staffing, i.e. through attrition coupled with a selective hiring freeze and some reassignments, we will be able to cope with the reduction of 14 staff positions without the necessity for a reduction-in-force.

NTSB EMPLOYMENT LEVEL

Mr. **Lehman**. What is your present employment and what is your projection for the end of the current fiscal year?

Mr. **Kissinger**. Well, as of today we have 318 employees on board. However, we have made offers to three additional people which would bring us up to 321, and it is also, I think important to point out, that we have two presidential appointees' nominations that are pending at this moment in the Senate Commerce Committee, which we anticipate action on within the next several weeks.

Those two people, plus their staffs, would bring us up right at about 324, which is the level we are hoping to maintain, through the year.

Now by the end of the year, ideally, we should be lower than that——

Mr. **Lehman**. You are talking about this fiscal year.

Mr. **Kissinger**. Yes. By the end of the fiscal year, hopefully, we will be able to reduce—I do not know if "hopefully" is the right word—we will probably be required to reduce our level somewhat lower than that because next year, at the 1987, at our proposed 1987 appropriation, we would only be able to fund 306 full-time equivalent positions.

HIRING FREEZE

Mr. LEHMAN. That brings me to my next question. Last year, it was indicated that you did not believe a hiring freeze was an acceptable alternative for reducing employment because you could not manage the safety impact of the reduction.

Will you require a hiring freeze to reach your fiscal year 1986 employment level?

Mr. BURNETT. Well, Mr. Chairman, we have already achieved through attrition the target that we have to meet in order to meet this year's Gramm-Rudman reductions, and we have decided to do that through attrition, rather than doing a more structured program of reductions-in-force because of the terrible impact that a reduction-in-force has on our ability to recruit in the future.

What we are going to have to do in order to get down to the 306 level for next year is, again, I think we will be able to achieve it by attrition.

The penalty for doing it that way is that it is sort of "hit or miss." We are at the mercy of whomever happens to leave as to where in fact we have to make program reductions.

In the long-run, through selective replacement of some of the vacancies that we have, we can have some control over restructuring our agency priorities, and in dropping out those programs that are our lower priority programs.

Mr. KISSINGER. Again, I think our position last year and this year is that a strict hiring freeze per se would not work, again because in some of our specialties we are so shallow, our depth is so shallow, that if we happen to have an unfortunate departure of two or three people, we would no longer have a particular specialty left at the agency. So we would have to go through some form of selective hiring freeze, if you will.

Mr. LEHMAN. Mr. Burnett talks about the number of people, but I am thinking in terms of how this is going to affect your investigative processes.

Mr. BURNETT. Well, it definitely will. We will be able to continue to do major aircraft accident investigations like we always have. If we get down to a 306 level and have to maintain that level, or lower, we will not be able to do all the general aviation accident investigations that we have traditionally done.

We are going to have to shed some of those, which would be a violation of our statutory mandate. We may have to abolish some of the investigative programs we have in some of the surface transportation modes.

So there are going to be some hard choices to make in the long-run. What we hope to try to do in the short-run is to manage that with attrition so that we do not have to under go Reductions In with attrition so that we do not have to undergo reductions-in-force, and then through selective replacement of positions that we do have vacant, eliminate those programs which are lower in priority.

I expect that what we are going to get into is a situation where the Safety Board is not going to be doing a lot of the general aviation accident investigations that we traditionally have done.

Now in that area there are a lot of investigations we do in general aviation that do not yield any safety payoff.

The problem is, you never know which ones are going to yield a safety payoff until you conduct the investigation, and all we are going to be able to do is take an educated guess as to which are most apt to yield us benefit.

STAFFING REDUCTIONS

Mr. Lehman Your justifications appear to indicate that you intend to make across-the-board reductions. Is this correct, or have you established a policy to ensure that your bureaus of accident investigation, field operations, and technology are fully staffed with qualified professional personnel? You have already partially answered, so you do not have to be redundant, but your justifications appear to indicate the above. Instead of "fully" staffed, you could also substitute the word "adequately" if you wanted to describe it that way.

Mr. Burnett. Well, I am not sure that with the Safety Board, that even "fully" has been adequate, so "fully" might be the less demanding standard.

We are reflecting in the documents that we have here an across-the-board decrease, but since we are going to take it through attrition, we do not know exactly where it is going to fall.

What we hope to do is to give priority for refilling positions in those accident investigation programs that we think are most important, and therefore, give more protection to those, but I do not think they are ever going to be fully protected and we will probably have to take some reductions, even in those areas.

AVIATION INVESTIGATIONS

Mr. Lehman. Two questions from your answers. One is, are you not required to investigate all aviation accidents?

Mr. Burnett. Yes, we are, and what I am saying is, that at the level of 306, if we maintain that level we will not be able to do all that we are required to do under our Congressional mandate.

Or we could so limit the scope of them that they would not be done to the standards that the Board has traditionally maintained.

Mr. Lehman. And when you become selective, which kinds of investigations would you think would be the most important?

Mr. Burnett. Well, Mr. Banks has been working a great deal on trying to arrive at policies for selecting accidents that we would investigate versus those that we would not. Mr. Banks, would you like to explain?

Mr. Banks. Mr. Chairman, in the general aviation field today there is still a great concern about the level of training of the pilots, the type of aircraft, the sophisticated twin-engine for an example. We are still leading the field with single-engine fatal accidents, the pilot not being able to handle engine failure on takeoff, for an example.

We find that that type of accident is causing more fatalities and more deaths than before. We now are looking at the cause of this and we are talking about the training of the pilot to be able to handle emergency situations.

We are also looking at a lot of the information that we are getting from the in-flight breakups of light aircraft. We are not too sure that we have zeroed in on that exactly yet. In-flight fires is another that is causing a lot of problems. So we are going to have to make a determination there, which is the biggest safety factor, and start to select the accidents that we are not going to investigate.

In addition we are of course going to continue to emphasize the commercial type general aviation accidents, Part 135 carriers, the air taxis—those types of operations in which we would continue to do as we have always done them.

All of those areas in which we have an aircraft that has been involved in quite a number of accidents where we may have a suspicion of some particular problem with an aircraft—and we have a couple of those now—we would continue to do.

But just the routine general aviation accident, we would probably just do a sampling in order to maintain some sort of statistical data base.

GRAMM-RUDMAN IMPACT ON REPORTS AND RECOMMENDATIONS

Mr. Lehman. To what extent will the Gramm-Rudman reductions reduce the number of investigations or reports issued, and to what extent will the issuance of your reports and safety recommendations be delayed?

Mr. Burnett. Well, certainly it is going to cause some additional delays. Mr. Chairman, in the general aviation accident area, we had, typically, a three-year backlog when I first became chairman, and we have reduced that backlog now to—Mr. Banks, I believe it is about a year, or a little over a year, from the time of an accident to the time of completion of all work on it, as a typical situation.

We would expect that backlog to continue to build up again, especially if we continue to take a large percentage of the general aviation accidents.

If we thought we were only going to be held at the 306 level for a short period of time, we might try to continue to do all of them, and let that backlog build and hope that we could reduce it later on, but if it is going to be a permanent thing, that we are going to be at that level, we never would catch up, and we would just be building a backlog that would continue to increase.

Mr. Lehman. What impact would that have on transportation safety?

Mr. Burnett. Well, it will not be good. I think we can minimize the impact of the cuts by doing that, but it still is going to have some negative effect.

There will be some of those accidents that we will choose not to investigate under a limited investigative program, which would have given us good important safety information and helped us to head off other accidents.

ACCIDENT REPORTS

Mr. Lehman. Would you provide for the record for each of the last 5 years the average length of time between the accident and the issuance of your report, broken down by mode and bureau, i.e., accident investigation and field operations.

[The information follows:]

SUMMARY OF THE AVERAGE ELAPSED TIME BETWEEN THE OCCURRENCE OF MAJOR ACCIDENTS AND THE ADOPTION OF ACCIDENT REPORTS
FYs 1981-1985

	TOTAL		AVIATION		RAILROAD		HIGHWAY		MARINE		HAZ MAT/PIPE	
Fiscal Year	Rpts	Ave. Elapsd Time (MOS.)	Rpts	Ave. Elapsd Time (MOS.)	Rpts	Ave. Elapsd Time (MOS.)	Rpts	Ave. Elapsd Time (MOS.)	Rpts	Ave. Elapsd Time (MOS.)	Rpts	Ave. Elapsd Time (MOS.)
1981	60	7.68	21	8.60	12	5.46	9	5.85	12	8.32	6	10.39
1982	35	9.62	13	11.40	5	7.45	6	7.92	8	10.50	3	6.58
1983	37	9.39	10	9.20	10	8.38	5	7.50	9	12.46	3	7.33
1984	40	10.15	13	11.71	4	7.44	9	9.12	9	10.11	5	10.20
1985	45	11.83	10	10.83	11	13.96	6	8.28	12	11.55	6	13.69

SUMMARY OF THE AVERAGE ELAPSED TIME BETWEEN THE OCCURRENCE OF FIELD ACCIDENTS AND THE ADOPTION OF ACCIDENT REPORTS

Calendar	Average Elapsed Time		
Year	Aviation	Railroad	Highway
1984			
Factual Reports	10 mos.	10.2 mos.	12.8 mos.
Briefs of Accident	14 mos.	10.9 mos.	20 mos.
1985			
Factual Reports	8.7 mos.	7.7 mos.	5.1 mos.
Briefs of Accident	12.2 mos.	8.2 mos.	8 mos.

Note: Data on elapsed times from accident occurrence to report issuance are not available for field investigations for 1981-1983.

DELAY OF REPORTS

Mr. **Lehman**. To the extent that your accident investigations and reports are curtailed or delayed, what will be the impact on transportation safety?

[The information follows:]

We believe the impact on transportation safety will be increased accidents, additional fatalities and injuries, and further property loss and damage. If accident investigations and reports are curtailed, many site-specific safety improvements which our investigators often identify the need for on the spot will simply not be made—with the likelihood that similarly caused accidents will recur. In addition, formal safety recommendations which are more broadly applicable may not be made because we will not have the comprehensive data base from which to identify trends in types of accidents and recurring problems. Similarly, if accident investigations and reports are delayed, this will delay the issuance of the safety recommendations derived from them, with further delays in implementation of the corrective actions which they propose—a process which the Safety Board already often believes is too long. During this period of delay, additional preventable accidents, and accompanying loss of life and property, will surely occur.

TAX ANNUITY

Mr. **Lehman**. I will yield to Mr. Coughlin.

Mr. **Coughlin**. Mr. Chairman, I have no questions at this time.

Mr. **Lehman**. Mr. Wolf.

Mr. **Wolf**. I heard a person say the other day that they wanted to balance the budget in the worst way and they did it. [Laughter.]

Mr. **Wolf**. I did not vote for Gramm-Rudman, for a lot of reasons. I have a couple of questions which follow along the lines of the Chairman.

One is, I received a letter from Mr. Kissinger of your agency. Mr. Kissinger is not here.

Mr. **Kissinger**. Here I am.

Mr. **Wolf**. Oh, you are here. Well, great. Do you have a copy of the letter that you sent me? I have contacted every federal agency, asking them what the impact would be with regard to the tax annuity question. Why don't you just read it for the record.

Mr. **Kissinger**. "This is in response to your letter to the National Transportation Safety Board requesting that we provide information regarding retirement eligibility.

"In answer to your specific questions: 1) 22 employees in the NTSB are eligible to voluntarily retire prior to July 1, 1986.

"2) This represents 6.8 percent of our total fulltime work force as of January 4th, 1986.

"3) Only three of these positions are clerical positions for which it is deemed there is a sufficient applicant pool. The remaining positions include managerial and technical specialist positions, all of which are considered hard to fill positions.

"Included among those positions are five bureau office or division chiefs, and seven investigators in charge of major accident investigations.

"Key positions to the successful implementation of the Safety Board's accident investigation mission. While many of these positions could be filled by promotion from within, we are now experiencing extreme difficulty in filling journeymen technical positions at the GS-11 through 13 levels from which our senior level positions would be filled, particularly in the Washington area where the majority of our staff is located.

"It has become commonplace to repeatedly readvertise such positions over a period of months before any qualified candidates are identified.

"4) In prior years, approximately 40 percent of those eligible to retire actually retired, i.e., approximately nine per year.

"5) We believe it is likely that a higher percentage of those eligible to retire would actually retire before July 1, 1986, should the tax provisions concerning Federal retirees be changed.

"6) Certainly if 6.8 percent of the total agency staff retires within the next five months, in addition to our normal attrition from other causes, it will hamper our ability to carry out our responsibilities for a number of months, until the previous staffing level can be restored.

"We appreciate your interest in this matter. Sincerely, J. Peter Kissinger, Managing Director."

Mr. Wolf. Thank you very much. Mr. Burnett, do you have any feelings about that? I am just trying to get every witness on the record to acknowledge that this tax annuity question, which I think Senator Packwood is going to leave out now over on the Senate side, would really have a negative impact on morale, and on losing a number of people.

Mr. Burnett. Clearly it would precipitate a crisis at the Safety Board. Now it may come in handy, if, for instance, we have a 20 percent cut under Gramm-Rudman next year, we had to make that sort of cut, and we try to do it through attrition; the fact that we have a high number of retirements would help us achieve that and would help us reduce personnel.

But we would rather not have to face either one of those possibilities.

Mr. Wolf. So it would be a crisis, then?

Mr. Burnett. Oh, I will say crisis is, if anything, an understatement. Now it might not be any more of a crisis than we had to face anyway, given that we had a Gramm-Rudman crisis, but it will be a crisis, one way or the other.

Mr. Wolf. Of course you are losing the most experienced people under this?

Mr. Burnett. Yes, although, frankly, I think in order to avoid a reduction-in-force, we would probably want to encourage a lot of retirements because of the effect of reduction-in-force—I had to go through one of those—is to limit our ability to recruit in the future.

And we pay a very, very high price for that.

Mr. Kissinger. I might add, here, Mr. Wolf, that we have had eight people retire this fiscal year already, and through the end of the fiscal year, you know, there are 21 additional people that are actually eligible to retire, and fourteen of those have actually indicated to my personnel people and started asking questions about what would it mean, and giving some general indication that they might retire.

Mr. Wolf. Of the 21 eligible, 14 have already expressed some sort of interest?

Mr. Kissinger. That is correct.

AIR TRAFFIC CONTROL

Mr. **Wolf**. Well, we are hopeful that we will knock it out, and I think you should put out an informational bulletin that there is an effort to knock this out of the tax bill.

We do not want to lose these people, and yet I cannot blame these people because, financially, it could mean up to $15,000 to $25,000 per person.

So I just would hope that you would let the Administration know, Secretary Dole and others what a crisis this could mean to the NTSB.

The other question is, we have a report from GAO. It says here, and I will just quote: "Finally our survey suggests many more controllers will retire in the next few years than FAA is planning for. In November of 1984—" and this is a little bit of a different subject but the same concern. "In November 1984, FAA projected the number of retirements to be close to its historical experience of 14 percent of those eligible to retire. Consequently, it originally estimated that between 300 and 400 ATC personnel would retire in 1985. But in March 1985 they raised the number to 450 and in fact 473 personnel retired in 1985 and another 130 retired in January of 1986. Based on a survey, about 84 percent of the 565 controllers, and 81 percent of the 442 supervisors eligible to retire then or within two years, said they would retire when eligible.

For example, 26 of the 44 supervisors at the New York center are already eligible to retire, and a survey indicated that 82 percent of them definitely or probably will retire within the next two years."

What are your comments with regard to that? Do you think these retirement morale problems and tax annuity problems could create a crisis at the FAA?

Mr. **Burnett**. Well, the air traffic control system can be operated safely at any level of employment of air traffic controllers, assuming that they control the traffic to the level that can be safely handled.

What that would mean, however, would be that planes that might want to fly and passengers who might want to fly might not be able to. We have found encouraging Secretary Dole's indication that they were going to expand the number of air traffic controllers, which would keep the FAA from having the daily crisis of having to control traffic against the wishes of the air carriers and the travelling public.

And anything that would interfere with that expansion, and especially in taking out some of their more seasoned people, would certainly run counter to what we had hoped to see happen.

NATIONAL AIRPORT

Mr. **Wolf**. Well, thank you. I just wanted to get that on the record. I know this is not a result of what you have done.

But I just wanted to make it clear, that there is a crisis, or a potential crisis, both at NTSB with regard to this retirement problem and also at the FAA.

One additional question that is a local issue but very important. I sent a letter to Administrator Engen with regard to Runway 18/36 at National Airport. As you know there has been interest in it.

I asked them for a study of an additional overrun. I just want to read two sentences in a letter from Mr. Engen and then ask you to comment. You may want to get back to me in more detail. I asked for a greater extension on that runway to make it safer for anyone using it.

Administrator Engen said: "Through an environmental process that extended over a four-year period, we determined that 750 feet was the most feasible for the safety area at the north end of Runway 18/36. We believe that the existing 750 foot safety area for Runway 18/36 is probably the best obtainable, all things considered. I do not believe that any further study of it is feasible outside of the overall master planning efforts."

Now I do not think that that is a long enough of an overrun, and I just wanted you to comment from your expertise.

Do you think 750 feet is sufficient, or do you think at National Airport there should be a longer overrun?

Mr. BURNETT. Well, sir, you may recall, I think it was partly through your efforts combined with the special study of airport safety, which included Washington National, that achieved the overrun that was added.

At least that was announced after. At your request, we embarked upon that special study that we did. We have already proven the validity of that additional overrun and the avoidance of what could have quite possibly been a severe accident at Washington National. The standard overrun is a thousand feet and I would like to see that for Washington National.

Whether it is achievable, given the environmental considerations that they have there, I do not know and I do not think the Safety Board is in any position to resolve that issue.

From the safety standpoint if they had a thousand foot overrun the National Airport would be equal in safety, as far as the overrun situation, to the most modern airports in the country.

Mr. WOLF. I am not trying to put you on the spot because you have been very helpful and I appreciate that.

If you do not agree with me, don't say it. I am just trying to get somebody to say, that if it could be a thousand feet, then it ought to be a thousand feet.

I think that anybody who uses that airport, given a choice would rather use a runway with a thousand foot overrun. If they had a safety survey before they got on a plane, and were told they had the choice of two runways—one runway with an overrun of 750 feet—another runway with an overrun of a thousand feet, I think most people would say they would rather go with a thousand feet just as a safety precaution. I am trying to get somebody to face this issue. I think we can deal with it.

There are environmental ways whereby it could be extended. Do you think that if it can be done in an environmentally safe manner it should be done? I do not want to extend the runway in order to bring in bigger jets.

As you know, I am opposed to doing that at the airport. But in order for the safety overrun, would it be desirable to increase it from 750 to a thousand, if it could be done in an environmentally safe way?

Mr. **Burnett**. Well, certainly it would be desirable. There is also the point that I have raised before, and I never really have been able to get anybody else, even at the Safety Board to agree with me, is that you can also have the overrun by subtracting 250 feet from your published runway length.

You can achieve the same result as a thousand foot overrun, which would in some way marginally restrict the aircraft that could come in there or take off from there at certain loads.

And so there is more than one way to achieve the safety protection that you desire. One would restrict the usage of Washington National Airport. The other would require expenditures of money, and some environmental impact, and the nature of the environmental impact or how it could be avoided is something that is just beyond our area of expertise.

NEED FOR 1,000 FOOT OVERRUN

Mr. **Wolf**. I understand that. You know my position on National Airport and Dulles. I want to shift flights out of National to Dulles, and everything else, but I guess the point I am trying to make is, is it desirable? However you get there, is it desirable to have a thousand foot overrun rather than a 750-foot overrun?

Mr. **Burnett**. There is no doubt about it. If you are in a plane that has to abort, that extra 250 feet will mean a lot to you.

Mr. **Wolf**. If we had not had that recent extension, what would have happened with that flight?

Mr. **Burnett**. Well, I do not think we can definitively say but we would have had a far worse situation than in fact we had.

We would have had an airplane in the water, and, you know, we have seen demonstrations of the water rescue capacity at Washington National in several trials they have done. I hope that since that time they have been improved. But one of the things they were doing was using barrels to simulate the survivors of the accident in the water and they had these airboats that kept running over the barrels, and so I am not sure what would have happened to those people, and I would not have wanted to be out there in that cold water with airboats running around trying to get me out of the water.

I guess I might have rather had the airboats and not have any help, have to wade out, but it still would not have been a pleasant situation.

Mr. **Wolf**. I just want the record to show that I appreciate, Mr. Burnett, your support on that.

I think the record should also show that Jim Wilding and Hugh Riddle from the FAA, have been very supportive of that when there was a lot of questioning as to whether or not we should extend the runway. Everyone held firm and you were very, very supportive, and I think we did save some lives.

I would ask you to go back and look at this. I will submit to you this letter that I received from Mr. Engen. You can take a look at it and give me your comments on it.

[The information follows:]

The Safety Board believes that the Administration's comments on the runway 18/36 north end safety area are acceptable.

FAA Advisory Circular 150/5300-12 (Airport Design Standards—Transport Airports) states that runway safety areas should extend for 1000 feet beyond the runway end, but for existing runways the "maximum feasible length should be provided." The existing safety area complies with this requirement.

If, however, the current master planning study for National Airport should conclude that further extension of the existing 750 foot safety area is feasible, the Safety Board would urge prompt action to accomplish this extension.

Mr. LEHMAN. Thank you, Mr. Wolf. I don't like the image of those airboats running over people like they did the barrels. That is sort of frightening.

Mr. BURNETT. Well, Mr. Chairman, I thought at the time, most of the water out there off the end of the runway is fairly shallow, and it would really be disappointing if you managed to survive the plane crash and get out in three feet deep water, and be very happy that you were surviving, and then somebody runs over you with an airboat.

Mr. LEHMAN. Mr. Durbin.

NATIONAL DRINKING AGE

Mr. DURBIN. Mr. Burnett, there has been an issue before Congress for a period of time now concerning a permanent minimum national drinking age.

Senator Lautenberg last year included provision, which I believe was in the Continuing Resolution, which would have established this as a permanent requirement rather than as a temporary Congressional program.

That has been before the House before, and in fact, it is conceivable it may even be before us again today in the Reconciliation Bill. I am not a hundred percent certain on that.

But in addition to his efforts, Congressman Howard, and I, and many others, have co-sponsored legislation that would in effect establish a permanent minimum national drinking age of 21. What is the position of your agency on that legislation?

Mr. BURNETT. We have not taken any formal position on the legislation. As you know, the Safety Board began, really, the national attention to this issue by making recommendations to all the state legislatures that they raise their drinking age to 21.

I personally had some reservations about "carrot or stick" type of legislation to force the states to do that, for fear that the state alcohol enforcement agencies, which would not benefit directly from, or be harmed directly by the deprivation of highway monies, would not really seriously try to enforce the age 21 legislation in their administration of the licensing programs for the sellers of the alcoholic beverages.

And I think we saw some indication of that in the attempts by some states to say we are going to sunset this at the end of two years.

You are obviously not going to have a serious enforcement program of a law that the state legislature itself has no more commitment to than was demonstrated in some of the states where they considered that type of legislation.

Now that we have put our hand to the plow, and we have established a temporary minimum national drinking age, I think that it certainly would be a wise thing. This is my opinion, not a Board position, to make that permanent, rather than to see the effort that has been made so far be avoided through that kind of subterfuge on the part of the states.

Mr. **Durbin**. What process could we or should we follow to get a formal board position in favor of this?

Mr. **Burnett**. Well, I do not know that we necessarily would take one. I think that we have given the public the benefit of our technical expertise on the issue that age 21 is desirable and will save lives. The Board is the one that developed that whole movement, I think.

As to whether the Board would consider exactly what strategy we should follow in relation to the state legislatures is not something that involves the Board's technical expertise.

Mr. **Durbin**. Has your Board done any studies on the question of cross-border drinking? This has been a serious concern in my home state of Illinois because of Wisconsin's lower drinking age.

I think this goes to the very question as to whether or not a permanent uniform, national standard is needed. Since we have raised the drinking age in Illinois to 21, the number of alcohol related fatalities has decreased by 7 percent. However, in the counties bordering Wisconsin, the number of alcohol related fatalities has increased 25 percent; the number of Illinois drivers under 21 found intoxicated, driving in Wisconsin, has increased 50 percent.

It is compelling as far as I am concerned, from a safety viewpoint, that we should once and for all rid ourselves of this patchwork quilt that invites kids to get in their cars and kill themselves and others.

It would seem to be the perfect issue for your Board to get involved in and make a definitive statement that you are in favor of a permanent, uniform national standard.

Mr. **Burnett**. Well, we have certainly been deeply involved in that issue. In fact, I have testified before a committee of the Wisconsin Legislature in an attempt to try to get them to pass at least legislation that would prohibit their bars from serving the Illinois youth.

And it is a problem that not only exists along the Illinois/Wisconsin border, but on many other borders as well. The fact is that the reports we have already issued indicate that there is a problem that has to be dealt with one way or the other. For us to try to analyze which strategies are best from a legislative standpoint, to respond to that, is, I think, a little bit beyond our role.

Mr. **Durbin**. Well, I would disagree. I am sorry that although you have a personal commitment to this and have stated your informal recommendations to legislatures, that the Board does not believe that it should take a formal position on this. I—

Mr. **Wolf**. Would the gentleman yield?

Mr. **Durbin**. I would be happy to yield.

Mr. **Wolf**. I agree with him. We are going to have the same problem here in the District of Columbia. The minimum legal drinking age is 21 in Maryland and it is 21 in Virginia. If the District doesn't conform, we are going to have young people—we now have them—coming out of Virginia, coming out of Maryland and going into Georgetown to drink, and then driving home on area roads.

It would really be important if the Board got on record on this issue.

Mr. **Burnett**. We have been on record.

UNIFORM NATIONAL DRINKING AGE

Mr. **Wolf**. I mean officially, particularly on the issue that Mr. Durbin is talking about. You could end up saving a lot of lives and I just wanted to go on record in agreement with Mr. Durbin. If you could say something important, it would give us ammunition up here that could really help.

Mr. **Burnett**. I think we are very clearly on record that we are for a uniform, national drinking age of 21. And our original recommendations were made directly to the state legislatures that they achieve that.

We did not endorse the temporary age 21 legislation as far as the use of Federal funds to try to coerce the state legislatures to do that, because I felt, having been involved in local law enforcement, myself, as a judge, that measures that are achieved through that sort of pressure—and I think 55 mph speed limit is an example—are often very seriously discounted at the enforcement level. And I felt that it was better to achieve the raising of the drinking age, in a state-by-state basis. However, the national strategy by the Congress which was somewhat different from that. It seems to me to be working but we have some examples of states that are trying to avoid it and I think, quite clearly, we would like to see the policy succeed rather than see it fail.

Mr. **Wolf**. Well, could you not give Mr. Durbin a letter putting the Board on record in support, particularly in these border crossing areas? Because I know in the District of Columbia, Mayor Barry is not going to do anything. The District Council has just said that they are not going to do anything. So the end result is that there is going to be a lot of hurt and agony in a couple of parents' homes when these kids are killed.

I just think that if you could give a report to Mr. Durbin, saying that it makes sense if one state has done it, the other states should. That would help.

Mr. **Burnett**. I do not think that we have any problem with that. There is no doubt of our support for raising the drinking age to 21 in every jurisdiction in this country.

Mr. **Wolf**. Well, I think that would be helpful.

Mr. **Durbin**. I think that making it permanent would also avoid the problem that you referred to earlier, where states have increased their drinking age with a sunset provision.

Mr. **Burnett**. If we get a request, as we often do, to comment upon legislation pending before Congress, then the Board will take a position on it one way or the other, or say that we will not comment on it.

TRUCKING DEREGULATION

Mr. **Durbin**. I think we can get your request. We will work on that.

If I could switch to another area here. There have been many concerns expressed about the deregulation of the trucking industry and the impact this has had on safety. Some reports have suggested that there has been a significant increase in accidents since deregulation. Do you have an opinion as to the effect of deregulation on safety in the trucking industry?

Mr. **Burnett**. Not directly. The approach that we have taken to deregulation in all the modes of transportation is that it need not have a negative effect on safety if we continue a vigorous policy of safety regulation.

The problem with that from the standpoint of the trucking industry is that we have very primative federal regulations of the trucking industry. It is not like the aviation industry in which we have very complex, and well developed safety regulations.

In addition, the Bureau of Motor Carrier Safety has about 200 people out in the field and a lot of those are tied up in administration or have substantial administrative responsibilities separate and apart from doing their surveillance work.

So you perhaps may have 100 man years of surveillance by the Bureau of Motor Carrier Safety to surveil literally thousands of carriers, and many thousands more of trucks and drivers.

I guess trucks and drivers runs into the millions and so, clearly, from the federal level, we have no safety surveillance capacity worthy of the name.

Now, there has been an attempt to interest the states, through some financial incentives, to providing the surveillance capacity, but we do not have the adequate federal regulations for them to. Even if you had good surveillance, which has not been developed even now at the state level—I think that the federal regulation of trucking safety is so far short of the mark, that we cannot guarantee—in other words, the competitive environment that exists there is going to be able to undermine those who want to maintain a high level of safety because they cannot do that at the same price that somebody else can who does not want to achieve that. And we have no defense against that sort of destructive competition.

TRUCK SAFETY

Mr. **Durbin**. What efforts are you going to make or recommend to change Federal regulations so we can increase trucking safety?

Mr. **Burnett**. Well, we have a study that will probably be out some time in this late spring or early summer on truck driver training and licensing issues. Then we are going to take our full highway investigative capacity and devote it to heavy trucks over the next year. We expect to do, before we are through, about 200 heavy truck accident investigations and we expect from that, to be able to learn exactly what we need in the way of regulations and surveillance, and come forward with some proposals that we think will be responsive to this need.

I would also like to point out that the organized trucking industry right now wants to have safety regulations. They realize that they cannot maintain the standards they have traditionally maintained in the competitive environment unless they have some regulatory support for that.

Mr. **Durbin**. You make a very good point.

Mr. **Burnett**. So, the time to move on that whole issue is now and I am very appreciative that you are asking the questions, because I think this is an issue that has not gotten the kind of attention it deserves.

Deregulation has got a lot of attention in aviation but deregulation of the trucking industry is not getting an adequate amount of attention from the policymakers.

Mr. **Durbin**. I agree with your comments. I think many of the larger established trucking firms are very conscientious in their safety programs, if for no other reason than pure economics. It is very expensive to be involved in accidents, and to have your reputation sullied with that experience.

But my concern is that with deregulation and the proliferation of competing companies, we will not be able to maintain that same safe level.

One specific concern is the whole question of a national driver's license for truckers. Is this going to be reviewed as a part of your study?

Mr. **Burnett**. We are going to touch on that issue in the training study that we come forward with. The Board has been on record, prior to this, as being opposed to the proliferation of licenses. They will allow people to be able to carry more than one license but that is not the only problem. The other problem is that in the state licensing system that now exists in many of the states, there is no formal training required in order to get one, even to operate tankers and hazardous materials trucks and things of that nature, with particular hazards involved.

Many of the states issue a chauffeur's license which entitles you to be a truck driver, but not requiring you to have any rating for the particular type of vehicle, either be it double bottom or the triples that are now being used, or a tank truck which has handling characteristics that are different from normal trucking operations.

So, we really have had an inadequate policy, both at the federal and the state level, to deal with really trying to require professionalism in the trucking operations.

Now, the thing I think we want to avoid when we start talking about a national license is that you run into a buzz saw with the states when they are going to lose their power and to have control and to collect their revenue. And I think what we really want to achieve is maybe even a state-administered policy that would ensure that there cannot be more than one license issued and that you have some common standards for the issuances of licenses to professional truck drivers.

TRUCK DRIVER LICENSES

Mr. **Durbin**. I think that is a good point on the common standards. There is one other element that seemed to come out as I looked into this issue. That is the whole question of establishing some sort of a central information system. To eliminate the problem of a truck driver, who happens to be licensed in two or three different states, who may have had a serious accident or been involved in driving while intoxicated. Currently state officials in other states may not be aware of these violations if he is arrested a second time.

Mr. BURNETT. We are working on some element of that in the National Driver Register which does not really solve the whole problem. And, of course, the National Driver Register is something that we have had with us for many years. But because it was not an automated program, it has not been very effective, it is too slow for the trucking companies to use in their hiring policies or for a state to wait until they get information from the National Driver Register before they issue a license.

And of course, there was a proposal in the early days of the first term of this Administration, that it be abolished, and some of us, and eventually the National Highway Traffic Safety Administration, itself, came to the conclusion that this would not be a good step. That what we need to do is to automate it and make it an effective program.

However, the automation of that program is taking a very, very long time. And I am not sure how much of that is just that it takes that long to get the computer programs prepared or whether it is done as expeditiously as it can be. But we would have certainly liked to have seen it move faster than is happening.

But even that program will only indicate when a truck driver's license is suspended or he has committed some particularly gross type of a violation, like drunk driving or passing a school bus or something of that nature. So, it will not really give us a complete national picture of all of the driver record history which is the kind of thing that we would really like to achieve.

55 MILE PER HOUR SPEED LIMIT

Mr. DURBIN. I am probably pressing my time, but I want to ask two quick, non-controversial questions.

Are you involved in any effort, or are you aware of any effort, on an experimental basis or otherwise, to reduce the 55 mph speed limit?

Mr. BURNETT. No. Certainly the lower the speed limit, from the safety standpoint——

Mr. DURBIN. I am sorry, to increase it.

Mr. BURNETT. No. The lower the speed limit from the safety standpoint, the safer the operation is, assuming that it is an enforceable standard. It is possible that you could get it so low that nobody would pay any attention to it.

Mr. DURBIN. I'm referring to suggestions to increase the speed limit from 55 to 65 in a certain rural low-access, interstate highway areas.

Mr. BURNETT. I find that in a rural driving situation, on an interstate, personally I find that driving 55 is very difficult to maintain alertness. But the statistics indicate that the lower the speed level is maintained, the lower the number of fatal accidents and the lower the injury rates.

So, certainly we do not see that there would be any safety advantage to raising the speed limit.

Mr. DURBIN. Have you done any studies, for example on raising the speed limit on rural, low-access interstate highways?

Mr. **Burnett**. No. We do not generally do research or studies other than just what we bring out through our accident investigations.

SEAT BELTS IN SCHOOL BUSES

Mr. **Durbin**. The last question. Have you taken a position or are you doing any studies on the use of seatbelts in school buses?

Mr. **Burnett**. We have not taken a position yet, but we have done a lot of studies. In fact, we have investigated every serious school bus accident in the post-1977 school buses that has occurred in the last several years.

I guess, Barry you would like to comment?

Mr. **Sweedler**. Yes, we have currently a study under way, sir, that will include analyses of more than 60 school bus accidents, involving all types of accidents some fatal and many very minor or moderate accidents. We will look at the crashworthiness of schoolbuses, which will certainly include the question of whether seatbelts would have helped or would have hurt.

Mr. **Durbin**. And when do you expect that study to be out?

Mr. **Sweedler**. This spring.

Mr. **Burnett**. As of the last time that I talked with staff about this issue, we had found no instance in which a safety belt would have avoided a fatality. Now, we may have found some instances in which a serious injury would have been avoided by the use of the belts. But in addition, we have just completed a series of accident investigations that have looked at the effectiveness of belt systems in automobiles. That set of investigations, which we have not completed analyzing at this point, raises serious questions about the safety of a lap-belt system alone.

And so that may suggest that if we go into a seatbelt system in school buses, we might not use the lapbelt system. And it might have to have a shoulder system which is going to be considerably more expensive than what had been expected by those people who are advocating belt systems in school buses.

Mr. **Durbin**. Thank you, Mr. Burnett.

Thank you, Mr. Chairman.

Mr. **Lehman**. Thank you, Mr. Durbin.

FISCAL YEAR 1987 REQUEST

For Fiscal Year 1987 you are requesting an increase of $89,000 over your adjusted (after sequestration) fiscal year 1986 level. However, you are proposing to continue to reduce your full-time equivalent employment (FTE) by an additional 18 work-years in 1987.

Would you explain the reason for this personnel reduction and indicate how you intend to reach this lower employment level?

Mr. **Kissinger**. Well, the problem between 1986 and 1987 is that we have had slightly over a $600,000 increase in uncontrollable expenses in two areas—rent, the rent that GSA charges us for our office space and for telephone and communications costs, which is also controlled by GSA. Actually that is a total $632,000 increase which we have to make up in some way and the only way that we can make that up is by, unfortunately reducing the personnel.

Mr. **Lehman**. In the past you have expressed some concern about being able to fulfill your statutory responsibilities with personnel levels that were higher than the level you are requesting for fiscal year 1987.

Is your FTE request of 306 workyears sufficient to permit you to fulfill your statutory responsibilities and to do the job that should be done to properly investigate transportation accidents?

[The information follows:]

We continue to believe that in order to adequately fulfill all of our statutory responsibilities, including thoroughly investigating all mandated transportation accidents, we need a staff of 347. The full-time equivalent employment level of 306 which the FY 1987 budget request will enable us to fund, therefore, will require us to reduce the number of major accident investigation reports from 48 to 41 and the number of field investigation reports from 4,398 to 3,300. It will in addition require us to make corresponding reductions in all other work products of the Board (such as safety studies, safety recommendations, etc.).

RENT EXPENSES

Mr. **Lehman**. Why has your rent gone up, are you occupying more space or are they just charging you more for the same space?

Mr. **Kissinger**. They are just charging us more for the same space. We have already reduced our space. We were one of the first agencies in the government to get a GSA approved space reduction plan to bring us down to a 135 square foot per average, which in and of itself was rather disruptive and probably caused, in my personal opinion, more harm than any benefits that were accrued from it.

And even though we got down to that level our rent has still gone up. They have changed the name from SLUC to rent and as a result of that, they have increased it 41 percent.

FY 1987 OMB REQUEST

Mr. **Lehman**. What was your fiscal year 1987 request to OMB, and what are the major differences between your OMB and Congressional requests?

Mr. **Kissinger**. We requested $25.5 million which would have supported a full-time employment level of 347 employees. And it has been what we have been requesting for the past several years and it has been a number that we determined to be a minimum level to satisfy our statutory mandate.

Obviously the major difference there is for our 41 positions and the difference of 347 and 306. And there was $800,009 for a laboratory and computer equipment; $200,000 in training; $100,000 for an independent financial audit; and some $600,000 for a pay raise increase that we anticipated (at the time at least), and inflationary costs.

Mr. **Lehman**. You missed out on a lot of good things. How vital are the differences? Would what you did not get from OMB help improve safety?

Mr. Burnett. Mr. Chairman, I think, certainly, we are going to make every effort to direct these reductions in areas that we think will have the least impact on transportation safety.

Mr. Lehman. It will not help.

Mr. Burnett. No. It is not going to help and it is going to limit. We are going to be slower and we are going to be less responsive. There are many of the things that we have been able to respond to fairly quickly—to trends that we see are developing—that we will not be able to do nearly as quickly.

I am encouraged that we will be able to continue to do those major parts of the Board's mission, for instance, responsiveness to major aviation accident investigations. We will be able to do these in about the way that we have always done them.

But there are many of the less glamorous but nonetheless important areas of our mission that are going to suffer.

13 PERCENT ACROSS-THE-BOARD REDUCTION

Mr. Lehman. And now we come to the 13 percent across-the-board reduction, which might be required for all non-exempt domestic programs to meet the deficit target for fiscal year 1987. If such a reduction were to be required in 1987, what do you anticipate the impact would be on the Safety Board, especially its productivity?

Mr. Burnett. Well, I believe that the figures that our staff prepared would indicate that we would probably go down to about 260 in terms of our staff. Now, Mr. Chairman, put that in perspective. When our aviation accident investigation function was moved out of the old CAB over to the independent Board, and before we had any measurable level of surface modal accident investigation, we started out with about 200 people. So 200 people would suggest that we would either have to discontinue all of our surface transportation accident investigation or substantially reduce our commitment in the area of aviation.

It would have to be one or the other. I would suspect that we will substantially reduce our commitment in the area of aviation and there will be perhaps the majority of general aviation accidents that we will either not touch or only do a superficial data base kind of thing and leave it at that.

Mr. Lehman. You are almost violating the law when you do not do what the Congressional mandate says you are supposed to do.

Mr. Burnett. Well, yes, sir, I would plead guilty to that in advance. We are not going to be able to meet our Congressional mandate with 260 people.

Mr. Kissinger. Mr. Chairman, I might add that if Gramm-Rudman-Hollings does happen in 1987, I hope that your estimate is correct, because next week we are testifying in front of the House Public Works Committee and they have indicated that we should be prepared to respond to a 20 percent cut in 1987.

Mr. Lehman. There would not be much left.

Mr. Burnett. That is true, Mr. Chairman. At some point you will reduce the agency below the threshold beyond which there is any point in having an agency.

PERSONNEL ISSUES

Mr. **Lehman**. In the past several months there have been numerous articles in the Washington Post, the New York Times, and so forth, about the departure of key people and the impact this is having on your agency. In December it was reported that during the past year 69 staff members, or about 22 percent of your agency, left.

These departing staff included the chief of aviation accident investigations, as well as several other senior employees. Your predecessor has referred to these departures as a "disaster".

What has been the impact on the Safety Board of these personnel losses, particularly in the area of aviation accident investigations?

Mr. **Burnett**. Yes, Mr. Chairman, I am glad to have a chance to respond to that. To give you some idea of these reports, they use the figure of 69 staff members. They included in that all of the temporary and the summer hires that we had who had departed. And of course, when we hire summer hires, we rather expect that they would not stay with us past the summer.

We did have a somewhat higher attrition rate last year than we had had the year before. In fact, we had 50 staff members, most of whom were accounted for by junior surface staff people who left to take better jobs in industry and clerical positions. We had several clerical positions that we had to fill repeatedly because of the low pay that we are permitted to give to clerical people and the fact that we probably expect ours to work somewhat harder than they typically have to in a lot of government agencies.

In the aviation area, for instance, we have averaged an attrition of about 16 people a year, ever since we have had our last RIF which has been, as we testified before this Committee last year, higher than we are comfortable with. Last year, it was 18 and it was up by 2, so our increase in attrition was in the administrative positions and in some of our surface accident investigators that we hired when we rebuilt after the RIF.

In fact, our retirements went down in the aviation area. We had a decrease in the number of retirements but we managed to retain a lot of our senior people we were afraid we would lose. With the exception of two or three prominent people, most of our losses were in junior people that I had hired since I have been there.

There has been some reference to the term, "brain drain" and I think that when we lost Dr. Carol Roberts to NASA, where she has wanted to go for several years so she could be involved in the space program, we had one moment of brain drain, but as a general rule, I think that the replacements we hired for those people we lost were far superior in terms of their technical education and abilities. They do not have the experience in accident investigation that some of the people we lost had.

STAFF DEPARTURES

Mr. **Lehman**. Well, you know, I do not have to tell you that in the New York Times article they indicated that these were not middle management people, these were some of your most capable people. You mentioned the one person who went to NASA, but there are others who have left also. The Subcommittee is concerned about what has happened to some of your best people and how you are going to maintain the quality of your investigations without them.

Mr. **Burnett**. We have lost two or three senior people in the area of aviation and with the exception of—well, I think in all cases, we have matched them with people of equal capability.

RECRUITMENT

Mr. **Lehman**. In previous years, you stated that your recruiting of technically qualified personnel was difficult and generally took a long time. Why does it take such a long time? How rapidly have you been able to replace the personnel who have left, and what technical and investigative expertise do your new employees have?

Mr. **Burnett**. Well, we have had some positions like our automotive engineering position that we have been recruiting for that was open for about a year or well over a year, I think. It is characteristic that we have had more problems filling our high-tech surface investigative positions than we have had with aviation. The Board is prestiged in the area of aviation, and it is so great that it is very easy to get people to come to us even though they may come thinking that with a plan to work with the Board for two or three years and then go into industry.

We do not have quite that kind of attractiveness for the high-tech type of people in the surface transportation areas.

I will say that we have, with respect to those senior people we have lost, filled in quite nicely with very capable people in the ranks. For instance, Mr. Bill Hendricks left as the Chief of our Aviation Accident Investigation Division and he was succeeded by Mr. Schleede, who has had far more experience in aviation accident investigation than Mr. Hendricks.

Mr. **Lehman**. What has been the change over the past 4 or 5 years in the average level of experience among professionals in your bureaus of technology and accident investigation?

[The information follows:]

As of today, the Bureau of Technology has 68 people on board. This includes our newly formed Human Performance Division, the additional persons with expertise in computer software and graphics and all clerical support. Of these, 27 have been with the Safety Board for ten or more years and 41 have been in the Bureau for more than four years.

Our average experience level for professionals today is probably equal or higher than the average level of four years ago. Where we lost highly experienced technical persons—we were able to recruit persons with industry experience or with higher and more specialized education.

Our Human Performance Division is of course new since four years ago. We used to handle that area through our Human Factors Division which presently specializes in the survival aspects of the investigation. We have had some early turnover of personnel in human performance which can only be attributed to the high caliber of persons that we hired—three have already been promoted into higher level positions within other segments of the Board.

Review of the experience levels of our professional staff within the Bureau of Accident Investigation indicates that generally we have more experienced and better technically trained personnel today than we had four or five years ago. Specific assessments of the modal accident investigation divisions show that the professional level of our Marine Accident Division has remained relatively constant; that of our Aviation Accident Division the experience level has increased along with increases in their average educational level; that of our Highway Accident Division the experience level has decreases slightly while the educational level has increased significantly; that of our Pipeline and Hazardous Materials Accident Division the experience level has remained about the same and the educational level has increased even with the increased number of personnel devoted to this effort; and that of our Railroad Accident Division has remained about the same.

TECHNICAL QUALIFICATIONS

Mr. **Lehman**. Would you provide for the record the qualifications of those technical personnel hired in the past six months and also indicate the qualifications of the technical personnel who have departed during this time period?

[The information follows:]

Although we do not maintain experience data for departed employees, the following experience data is provided for those employees hired for technical positions within the past 6 months.

Air Safety Investigator (Field)

Education:
3 years college: St. Ambrose; Harper Jr.; and Northern Illinois University. Various aviation courses given by the U.S. Army.

Other Experience:
Safety Officer, U.S. Army - 5 years
Flight Instructor, U.S. Army - 3 years
Aviation Safety Officer, U.S. Army - 3 years
Pilot, U.S. Army - 3 years

Supervisory Experience: No

Air Safety Investigator (Field)

Education:
BS in Psychology from California State
MS in Psychology from USC

Other Experience:
Flight and Ground Instructor - 1 yr.
Company Pilot, 4 yrs.
FAA Air Traffic Assistant - 3 yrs.
USMC Pilot - 13 yrs.

Supervisory Experience: Yes

Engineering Programmer Trainee

Education:
BS in Electrical Engineering from University of Illinois in 1985 with minor in Computer Science

Other Experience: None listed

Supervisory Experience: No

Highway Accident Investigator (Field)

Education:
5 years of college: Melton College; Extension University of Wisconsin; LaSalle Extension University.

Other Experience:
Deputy Sheriff (Patrol), County Sheriff Dept. - 15 yrs.
Assistant Squad Leader, U.S. Army - 3 yrs.

Supervisory Experience: Yes

Highway Accident Investigator (Field)

Education:
AAS 1982, Central Texas Jr. College; 120 hours Advanced Accident Investigation School, Texas A&M; 400 hours Police Academy; 80 hours Accident Reconstruction; 850 hours Public Safety Academy

Other Experience:
Trooper, Law Enforcement - 2 years
Patrolman, Law Enforcement - 2 years
Chief, Traffic Investigator, Military - 5 years

Supervisory Experience: Yes

Human Performance Investigator

Education:
BS in English/Psychology from Trinity College
MS in Pyschology from Old Dominion

Other Experience:
Research Psychologist - 6 yrs.
Teaching Asst. in Psychology at Old Dominion - 2 yrs.
Psychiatric Aide - 1 yr.

Supervisory Experience: No

Railroad Investigator

Education: None listed

Other Experience:
Division Road Foreman of Engines for Rail Corporation which included accident investigation work - 10 yrs.

Locomotive Engineer - 3 yrs.
Assistant Trainmaster - 4 yrs.
General railroad experience - 13 yrs.

Supervisory Experience: Yes

Transportation Safety Specialist (Heavy Vehicle Mechanic)

Education:
Short courses at Charles and Prince Georges Community College
National Fire Academy

Other Experience:
Airport Firefighter, Government Airport - 1-1/2 yrs.
Firefighter/Inspector, Government Fire Dept. - 3 yrs.
Auto/Truck Service Manager, Motor Company - 8 yrs.
Deputy Chief, Volunteer Fire Dept. -
Commercial Pilot, Aircraft Charter Co. - 19 yrs.

Supervisory Experience: Yes

Transportation Safety Specialist (Survival Factors)

Education: None listed

Other Experience:
Police Officer/Instructor, County Police Dept. - 4 yrs.
Patrol Supervisor, County Police Dept. - 11 yrs.
Analyst, U.S. Air Force - 4 yrs.

Supervisory Experience: Yes

STAFF DEPARTURES

Mr. **Lehman**. Most of the articles seem to indicate that the primary reason for the large number of staff departures is the lack of respect between management and staff. What, in your view, has caused this problem?

What, if any, information on this problem have you received from departing employees during exit interviews?

Mr. **Burnett**. Well, first I would say that I do not think that it is a problem, except that there are certainly a few people at the Safety Board who have opposed some of the policies that we have tried to institute as managers at the agency. And they have opposed the policy of having to compete—for the aviation side to have to compete with the surface side for the attention of top management. And we have put a lot of emphasis in trying to take our limited resources on the surface side and make them into a productive surface accident investigation program. I will emphasize that we have, in fact, taken no resources from the aviation side and placed them to the surface side. We have a higher percentage of our Board's total resources devoted to aviation now than we did before I became chairman.

But we have also had policies of demanding a lot more efficiency and responsiveness to the Board, and we have made the Board a whole lot more involved in consideration of the issues that were being developed rather than just being a one man show that some of the people very much liked on the aviation side. There was some opposition to policies for that reason.

Mr. **Durbin**. Mr. Chairman, may I interrupt for a second?

Mr. **Lehman**. Certainly.

MINORITY HIRING

Mr. **Durbin**. Mr. Burnett, your point earlier about a woman leaving your agency just raised a question in my mind. How are you doing in terms of minorities and women employed at your Agency?

I notice the people around the table here are rather consistently white males.

Mr. **Burnett**. Yes, that is true. Well, we have made—Mr. Banks is our first black bureau director and I had the privilege of raising him to that position. We promoted a woman to one of our division chief positions but we lost another woman division chief here in the last few weeks, so we are holding our own in that area.

I am very proud of the EEO program we have. For instance, in the last few months, we have appointed our first woman investigator in charge for major accident investigations.

And that was a policy that was controversial among some of our senior staff who did not really want to see that happen. I was very proud that we did that and we certainly are developing a lot more. We have a lot of women in junior positions now whom we fully expect to come to top ranks of the Safety Board. They certainly hold that capacity.

Mr. **Durbin**. You are testifying then, that you are making a conscious effort?

Mr. **Burnett**. Oh, certainly we are.

Mr. **Durbin**. Are you seeing results?

Mr. **Burnett**. It is a commitment of our management.

Mr. **Durbin**. Thank you.

STAFF DEPARTURES

Mr. **Lehman**. I am not sure that you exactly answered the primary reason for these departures, but do you do exit interviews as the people do leave? If so, what information have you received from the people who are leaving in regard to why they are leaving?

Mr. **Kissinger**. Yes, we do and I would say that the predominant reason that people are leaving us is for better jobs. They are either leaving for better jobs in government or they are leaving for better jobs in industry. As a small agency we just have trouble competing with agencies like the FAA. The FAA can somehow justify, for example, divisions that might have a senior executive and five GS-15's working in that division. OPM would never let us do that. And we could not justify those kinds of standards.

So we have had a lot of—I would say the predominant reason were people that left and went to work for the FAA and got a promotion or went to work for NASA and got a promotion.

INVESTIGATION AND ADVOCACY

Mr. **Lehman**. Some of the articles seem to indicate that there has been a shift in emphasis of the Board's role from accident investigation to advocacy for certain issues and that, to some degree, advocacy of a particular program or philosophy takes away from your role as an impartial judge of events.

In your view, what is the proper balance between investigation and advocacy, does this represent a shift in Board policy from 8 to 10 years ago, and has this been a source of the apparent conflict between you and some of your senior investigative staff at the Board?

Mr. **Burnett**. To the last question, I would answer no. I think I have made a great deal of effort and have had the support of the Board in doing so in trying to improve the effectiveness of the Board's advocacy role. I think it is part of the statutory mandate we are given. I do not believe that the Board has made an adequate contribution to transportation safety merely by having made recommendations and then walk away and leave them there for someone else to consider if they want to, without trying to actively see that they get the attention that they deserve. It has certainly been a standard at the National Transportation Safety Board that we have not achieved what we hoped to achieve until the actual safety reform is implemented.

So, we have put a great deal of emphasis on advocacy. In doing so, we have not reduced our emphasis on accident investigation. There has been no competition between the two. In fact, the advocacy brings to fruition what we learn in the accident investigation process. And to the extent that anyone has offered that as an explanation as to why a few staff members might be disgruntled, I would say that it is an excuse rather than a reason.

AVIATION SAFETY

Mr. **Coughlin**. Mr. Chairman, may I ask just one question?

Mr. **Lehman**. Certainly.

Mr. **Coughlin**. I know that you have NHTSA involved in automotive safety, and you have the Bureau of Motor Carrier Safety involved in truck safety, and you have RSPA involved in hazardous materials and pipeline safety, and you have the FRA with its own safety inspectors and the Coast Guard does a lot of work with marine safety. But you are the primary agency in connection with aviation safety, am I correct?

Mr. **Burnett**. Well, I do not think that we have any more primacy there than we have in the other areas. In each case, we have a regulatory agency that we work with. FAA has the same responsibilities for aviation safety that each one of those others does for regulation in their area of responsibility.

Mr. **Coughlin**. But you do a lot more accident investigation in terms of aviation than you do——

Mr. **Burnett**. Yes, we are required by law to investigate all aviation accidents.

Mr. **Coughlin**. You are not required by law to investigate all——

Mr. **Burnett**. In fact, we only have a skeleton accident investigation force in any of the surface areas. You know, it is really not feasible to talk about the reduction of it, because we only have that level in any of them that would be a threshold to have what you would call a minimal accident investigation program.

But what we have done in the last few years, rather than do as we used to and investigate every accident that had seven fatalities or more, by targeting especially in the highway area and in the rail area by targeting certain issue areas, we get more bang for the buck out of the accident investigation activities that we do have. And it has necessitated a great deal more attention from top management for our surface programs, which require a lot of creativity and a lot of discretion as to how we will use our resources as opposed to the aviation accident investigation programs which tend to more or less run themselves.

Mr. **Coughlin**. Thank you, Mr. Chairman.

AVIATION ISSUES

Mr. **Lehman**. It was recently reported that a Dallas Herald Times survey of 1,212 commercial airline pilots showed that:

—two-thirds of the commercial pilots surveyed believe U.S. air travel has become more dangerous since deregulation took effect seven years ago;

—half believe that airline maintenance and the quality of new pilots have declined; and

—one third believe that the quality of air traffic control has worsened.

I find the results of this survey alarming. Based on the work that your agency has done, what is your assessment? Is the system more dangerous than it was seven years ago?

Mr. **Burnett**. Mr. Chairman, I do not think we have seen anything that would convince me that we have a system that is not as safe as it has previously been at this point. As you know, we had several major accidents worldwide in the last five months of last year, which are still under investigation and I think that we still have to ask ourselves in the course of these investigations, are we seeing anything here that indicates some sort of trend? And we ought to keep an open mind on that question at this point. But I am very concerned. I have had to answer over the last four years a lot of questions about the impact of deregulation. And I have always said that I thought with the right kind of safety, that surveillance and regulation, we could keep anything from happening that would be inimical to the safety of the system. The problem that I see developing—and it is hard to handle from the regulatory standpoint—is the decreasing level of experience among the pilot work force. And that is caused by an increase in the demand for pilots due to lower fares and more competitive aviation environment, and a lot more people travelling by plane.

And we see a situation where the commuter airlines are already scraping the bottom of the barrel in their attempt to provide pilots for their operations because they are being raided by the major airlines who are hiring away from them.

So we see levels of experience that are greatly reduced for a lot of first officers in major air transportation or flight engineers and first officers, and also for captains in some of the new entrants and then some of the commuter air carriers.

And that is a disturbing situation. We cannot see statistically that it seems to be making a lot of difference right now, but it could be the kind of thing that would develop in a hurry and before we really got a handle on it.

We, at the Safety Board do not, at this time, have a strategy for dealing with that. It is something that we are looking at. There is not any really strong evidence that a high number of hours, 10,000 hours as opposed to 4,000 hours of flight time, produces a safer pilot. And it might be more important how many hours of instrument time they have or multi-instrument time.

And in addition, we have found, in our looking at FAA surveillance of operations in some of the investigations we have under way right now—for instance, a couple of commuter air carrier accidents—we have found that there is virtually no surveillance of a couple of the major commuter airlines in this country. One of them being Henson airlines that operates here in this area and another being Bar Harbor Airlines. We have had accidents on both of those airlines and in the course of our public hearings found that there is perhaps one operations inspector assigned to surveil them and it is just impossible for him to do that task. There is virtually no surveillance. And usually the operations inspector has other duties besides that particular airline.

And given that we have this much lower level of experience on the part of the pilots, and very little surveillance on the part of the FAA, to see that they are operating to standards that have been traditional is a source of concern.

FAA'S INSPECTION PROGRAM

Mr. **LEHMAN**. I think that we are riding seven years of momentum since deregulation. If there has not been that much difference between the last seven years and the seven years before, it is because we have had the benefit, so far, of what we had in place when deregulation went into effect.

But now, I think that we are coming into an era where the time element is going to go into effect, where, as you say, there are less experienced people all down the line, dealing with the elements of aviation that are critical to safety.

Several of the accidents which have occurred during the past year seem to have been preceded by mechanical failures. This has caused some concern about the adequacy of the FAA's maintenance inspection program. In the past you have been critical of FAA's inspection program and last year you indicated that you had approved a special study of this program.

What is the current status of this study and what have your special review and your aviation accident investigations during the past year indicated with regard to FAA's surveillance program?

Mr. **Burnett**. Mr. Chairman, we have decided to change our plans as far as producing a safety study on FAA's surveillance. We had to do that, first because many of the things that we had planned to do initially were accomplished by the GAO in a Congressionally requested look at the FAA surveillance system. We do not see any reason to try to duplicate their efforts.

Secondly, the resources that we had planned to commit to carry out that study, the people who ordinarily do our operations investigations and maintenance investigations for major air carrier accidents were overcommitted. When we had a record number of major air carrier accidents worldwide, last year, it forced us to use those people in the investigation of those accidents.

What we have done, however, is to take a thorough look at FAA surveillance of every operation in which we have had an accident. We did this beginning with the Galaxy accident in Reno last January and we have looked in depth at FAA surveillance in the course of every accident investigation that we have done. We have accumulated information that I think is startling and of great concern to us as far as FAA surveillance.

Another thing that bore on our decision in this regard is the release of a study that the FAA did itself that was actually prepared in April of last year but only recently became knowledge, in which they have done a fairly critical assessment of their own surveillance capacities, done by former employees, which would have probably reached many of the conclusions that we would have if we had completed our study. So we feel that the best thing that we can do at this time, rather than to duplicate some of those other efforts, is to use our efforts in trying to follow up on the recommendations that have come out of the GAO study and the FAA's own internal study to see whether or not they respond to those things. And to get what vision we can of what is taking place out of our accident investigation programs that we have ongoing.

FAA'S INSPECTION PROGRAM

Mr. **Lehman**. As you know, it was recently reported that an internal review of FAA's inspection program concluded: the FAA inspection workforce is lacking in experience, training, supervision and expertise; assignment of inspectors to airlines on a geographic basis is ineffective because of the inability of inspectors to monitor diverse and widely scattered operations; hiring practices and screening of applicants could be improved; and lack of standardization in inspections resulted from reinterpretation of policies and procedures at every level of the agency.

To what extent would you concur with these conclusions and, to the extent that you do concur, what recommendations have you made to FAA to correct these problems?

Mr. BURNETT. That report buttresses the kinds of things that we have observed. I think that we could add some additional individual examples to it. We did make recommendations to the FAA out of our Air Illinois investigation. The recommendations are still pending. We made additional recommendations coming out of the Galaxy investigation and we are going to have some more recommendations coming out of those accident investigations that are now pending that happened in the last half of last year.

To give you an example, Mr. Chairman, I recently held a hearing on the Milwaukee DC-9 crash. One of the concerns that we had was that the engine that failed had been overhauled at a major repair facility in Miami, Aerothrust. And we learned that Pratt & Whitney, the manufacturer of the engine had done a special shop review of the Aerothrust facility.

And had been quite critical of some of their standards, their testing standards for engine cracks in the course of that review.

So, at the hearing we called the gentleman who is in charge of the shop review program for Pratt & Whitney and asked him whether he thought that the FAA should not be discovering those things in the course of their surveillance. And he told us that he thought that the Aerothrust facility was probably a better facility than many that they took a look at. He further said, and I will try to use almost his exact words, that no facility that he has looked at in the last five years would pass close FAA scrutiny in terms of the calibration of their instruments. That he could go in to almost any shop and pick up instruments that were either out of calibration or out of calibration date. And this is something that should be readily apparent, we think, to the FAA, but they do not have the manpower to give these facilities close scrutiny.

I think when we got in to the Air Illinois investigation and the investigation of the L-1011 near-ditching out of Miami, I began to voice concern about the quality of the FAA surveillance program. Initially I was concerned more about the quality of the program and the fact that the resources were not being very well used.

But coming out of the last series of investigations that we have done, I have become more and more convinced that the FAA just does not have the people to do what we are asking them to do.

I had been reluctant to call for them to have more people because I did not think that they were making good use of what they had. But the fact is that they just do not have the people there. There is no incentive to try and create a good program when you know you do not have the people to do it, even if you created it.

In the operations surveillance of Midwest Express, which was the carrier that was involved in the accident in Milwaukee, their principal operations inspector who has responsibility for that airline is not qualified in the DC-9, so when she rides in the cockpit of the

DC-9 and looks at the procedures that are followed by the pilots, she does not have the ability to fly that aircraft herself.

It would cost the FAA about $20,000 to give her that training and she has not been given it even though a request was made.

Mr. **Lehman**. That is quality and not quantity in that case.

Mr. **Burnett**. Well, yes, it is. In that case, it is, but the reason that the quality has not been provided has been the lack of training funds, apparently.

Mr. **Lehman**. Well, then it is a combination of both, really. And when you talk about those instruments being out of calibration, there are certain tolerances that every machine shop has to adhere to, whether it is aviation-related or otherwise, and if you do not have the gauges to measure these tolerances you are in deep trouble.

Mr. **Burnett**. Well, that is a serious problem. And this information was given to us by the last witness that we called in the Milwaukee hearing and I was astounded when I heard what he said. I do not guess that I was that surprised, as much as I was startled to hear somebody say it as frankly as he did.

FAA'S INSPECTION PROGRAM

Mr. **Lehman**. When do you intend to follow up to see if FAA has acted on the results of the GAO and internal FAA reviews and when will the results of your follow-up review be made available?

Mr. **Burnett**. As soon as we have some personnel free that we can put on it, Mr. Chairman.

Mr. **Lehman**. Do you have an estimated date?

Mr. **Kissinger**. We have established in a fairly senior level contact between us and the FAA and set up a schedule for them to brief us, but I do not think that we could give you a specific date as to when we might be prepared to provide a specific response.

Mr. **Lehman**. Counsel was saying, by the time you come back next year do you think you will have some answers for us?

Mr. **Kissinger**. I think that we had better.

Mr. **Lehman**. There have been reports that Arrow Air had numerous inspections violations prior to last December's crash in which more than 250 soldiers and crew members were killed.

What is your assessment of FAA's oversight of Arrow Air and other similar chartered aircraft?

Mr. **Burnett**. We have not made an assessment at this point. We are participating in the Canadian investigation but of course, under the international treaties, that investigation is under their control and we do what they ask us to do.

I had a meeting, in fact, scheduled with Chairman Dêschenes of the Canadian Aviation Safety Board tomorrow and I had to cancel that because of an ear infection that keeps me from flying—I cannot get up there. But we have rescheduled that for later in the month and at that point, we plan to discuss with him whether we can be permitted to go perhaps beyond their interests in looking at some areas of interest that are more of importance to the United States than they would be to Canada. I expect that we will be able to work out something that would allow us to go into that even beyond what they do in their hearing that they have scheduled for April.

I think April the 8th is the date in which they are opening the hearing and they are going to go to some extent into FAA surveillance of the airline, but probably not as extensively as we will want to do.

We also have issued already recommendations to the FAA on the computation on weight and balance and special types of transportation where you typically have loads where the personnel would exceed the average 170 pound weight per person. That has an extensive application not only to the military charter operations but also to other flight operations, like the Eastern Shuttle where you may have a load exclusively of businessmen who would exceed the average 170 pounds in weight.

Mr. **Lehman**. Any additional information that you can supply for us on that question we would like for the record.

Mr. **Burnett**. Thank you, Mr. Chairman.

[The information follows:]

The Board's staff, including the Chief, Aviation Accident Division, the Deputy Director, Bureau of Technology and the U.S. Accredited Representative will attend the Canadian Aviation Safety Board's [CASB] Prehearing Conference March 24/25, 1986, in Gander, Newfoundland. The list of witnesses to be questioned and the areas of questioning will be finalized at that meeting. The CASB Public Hearing will convene April 8, 1986, in Ottawa and will probably run seven working days. Based on the preliminary list of witnesses and the planned areas of questioning, we anticipate thorough coverage of the safety issues by the CASB. If we deem further investigation necessary, we will pursue such matters after the CASB Hearing. I have attached for your information copies of the Board's recent safety recommendation letters to the FAA and DOD in connection with this accident. We have already received positive reactions to our recommendations from the FAA and DOD.

National Transportation Safety Board
Washington, D.C. 20594
Safety Recommendation

Date: February 14, 1986

In reply refer to: A-86-20

Honorable Donald D. Engen
Administrator
Federal Aviation Administration
Washington, D. C. 20591

On December 12, 1985, an Arrow Airlines, Inc., (Arrow) McDonnell Douglas DC-8-63, N950JW, crashed shortly after takeoff from Gander, Newfoundland, Canada, where it had stopped to refuel on a military contract flight from Cairo, Egypt, to Fort Campbell, Kentucky. The flightcrew of N950JW were operating under 14 CFR Part 121 rules as flight MF128R from Cairo to Ft. Campbell via Cologne, West Germany, and Gander. All 248 passengers, who were soldiers from the U.S. Army 101st Airborne Division, and the crew of 8 were killed in the impact and postcrash fire. The Canadian Aviation Safety Board (CASB) is directing the ongoing investigation to determine the cause of the accident. The National Transportation Safety Board is participating in the investigation under the aircraft accident investigation provisions of Annex 13 of the International Civil Aviation Organization.

Per Arrow procedures, the flightcrew used an "Adjusted Weight Units Loading System" which indicates a weight figure of 42,500 pounds for a planned load of 250 passengers and entered this figure on the load sheet. This weight represented a standard "average" weight per passenger of 170 pounds, including carry-on baggage. The Adjusted Weight Units Loading System is described in Arrow Flight Operations Bulletin No. 85-22, issued October 31, 1985, with an effective date of November 15, 1985. The bulletin states, in part, that, "This procedure shall be used on all passenger operations of DC-8 aircraft operated by Arrow Air, Inc." It further states, "The Adjusted Weight Units Loading System takes the place of the Weight and Balance Form, Load Manifest, or other system previously used for passenger operations." In general, this method provides the flightcrew a rather simplified system for calculating airplane weight and balance data for takeoff and landing performance. The system incorporates a loading table for use by the flightcrew from which "adjusted weight units" are taken and entered on the load sheet for passenger, baggage/cargo, and fuel weights. Simple addition of the various values leads to a total airplane weight and a center-of-gravity value.

The Safety Board examined bulletin No. 85-22 and found that it contains no method for calculating weight and balance for a passenger load that deviates from the standard average weight. However, Arrow's DC-8 Airplane Operating Manual, Weight and Balance Section, prescribes that, "actual passenger weight should be used when large groups of passengers are carried whose average weight does not conform to the Normal Standard Weight. For example, a group of large athletes, or a plane load of men would exceed the average. . . ." Also, Arrow's Operations Specifications, which were approved by the Federal Aviation Administration (FAA), state that, "Actual passenger weights are normally used." It is unclear at this time how the flightcrew of N950JW could have complied with the requirements of the manual or operations specifications because bulletin No. 85-22 apparently superseded all other weight and balance systems in effect at Arrow for DC-8 passenger operations and because no forms or loading tables were provided for calculating weight and balance when nonstandard passenger loads, such as troops, were carried. The investigation has not established how Arrow obtained approval from the FAA for the provisions of bulletin No. 85-22 without including a method for weight and balance calculations for actual passenger weights that deviate from the standard average weights. Several airlines use the Adjusted Weight Units Loading System; however, they incorporate provisions for both average and actual passenger weight calculations.

The instructions contained in Arrow's DC-8 Airplane Operating Manual are consistent with the provisions of FAA Advisory Circular (AC) 120-27A, "Aircraft Weight and Balance Control," which provides guidance to operators to establish an "approved" weight and balance program under 14 CFR Part 121. AC 120-27A contains instructions for development of weight and balance procedures to be included in an operator's operations specifications. The procedures must show that the method used will demonstrate that the airplane is properly loaded and will not exceed approved weight and balance limitations. The instructions contain provisions for both average and actual passenger weight calculations.

The investigation has revealed that the standard average weight of 170 pounds used by the flightcrew of N950JW is considerably lower than the actual weight of the passengers and carry-on baggage carried aboard the accident flight. This conclusion is supported by the following evidence:

1. From U.S. Army records, it was determined that the average antemortem weight of the passengers (without uniform) was about 164 pounds.

2. The carry-on baggage carried on the accident airplane nearly filled the baggage holds of the two Boeing 737 airplanes used to shuttle the troops from their base in the Sinai Desert to Cairo, where they boarded N950JW.

3. N950JW transported a group of soldiers from the United States to Cairo on December 10/11, 1985. The U.S. Army determined that the actual weight of the passengers and carry-on baggage of that flight was 54,726 pounds, or about 219 pounds average weight per passenger. These troops were of comparable age and size to those aboard the accident flight. It was not established whether that weight information was given to the flightcrew.

4. Witnesses have stated that the amount of carry-on baggage on flight MF128R from Cairo exceeded the amount on the inbound flight to Cairo, presumably because the passengers were required to wear civilian clothes upon departure from Cairo and they carried aboard their field uniform (fatigues, helmet, boots, weapon, etc.). Witnesses also have stated that, during the stop at Gander, additional carry-on items were purchased.

Although the U.S. Army estimated the weight of each passenger departing on flight MF128R from Cairo as 210 pounds, including carry-on baggage, investigators have not located the precise documentation provided to the flightcrew in Cairo before departure. The CASB investigators currently estimate that the actual weight of each passenger carried on the accident airplane was at least 220 pounds, including carry-on baggage. Calculating the weight of the passengers based on this weight figure results in a passenger weight of 54,560 pounds at Cairo, Cologne, and Gander, about 12,000 pounds in excess of the takeoff weight used by the accident flightcrew. This excess is based solely on revisions to passenger and carry-on baggage weight figures and does not consider possible errors involving the weight of baggage carried in the cargo holds.

Although the investigation has not, at this time, reached definitive conclusions regarding the effects of these weight discrepancies on the takeoff performance of the accident airplane, or their relationship to the cause of the accident, there are obvious performance penalties and safety issues involved in such operation. Further, the Safety Board, as well as the CASB, is concerned that flightcrews of other operators carrying military personnel on charter or contract flights, or on other flights on which passenger loads are not representative of the standard average weight, may be using the procedures apparently used by Arrow flightcrews.

Therefore, the National Transportation Safety Board recommends that the Federal Aviation Administration

> Issue an Air Carrier Operations Bulletin to all Air Carrier Operations Inspectors directing them to: (1) review the operations specifications and associated operational documents for carriers under their jurisdiction to verify that the provisions for use of actual weights, versus average weights, are complete and accurate, and clearly understood, and (2) reemphasize to each air carrier the need to use actual weights for passengers if the passenger complement dictates. (Class II, Priority Action) (A-86-20)

BURNETT, Chairman, GOLDMAN, Vice Chairman, and LAUBER, Member, concurred in this recommendation.

Jim Burnett

By: Jim Burnett
Chairman

National Transportation Safety Board
Washington, D.C. 20594
Safety Recommendation

Date: February 14, 1986

In reply refer to: A-86-21

Honorable Caspar W. Weinberger
Secretary
U.S. Department of Defense
Washington, D.C. 20301

On December 12, 1985, an Arrow Airlines, Inc., (Arrow) McDonnell Douglas DC-8-63, N950JW, crashed shortly after takeoff from Gander, Newfoundland, Canada, where it had stopped to refuel on a military contract flight from Cairo, Egypt, to Fort Campbell, Kentucky. The flightcrew of N950JW were operating under 14 CFR Part 121 rules as flight MF128R from Cairo to Ft. Campbell via Cologne, West Germany, and Gander. All 248 passengers, who were soldiers from the U.S. Army 101st Airborne Division, and the crew of 8 were killed in the impact and postcrash fire. The Canadian Aviation Safety Board (CASB) is directing the ongoing investigation to determine the cause of the accident. The National Transportation Safety Board is participating in the investigation under the aircraft accident investigation provisions of Annex 13 of the International Civil Aviation Organization.

Per Arrow procedures, the flightcrew used an "Adjusted Weight Units Loading System" which indicates a weight figure of 42,500 pounds for a planned load of 250 passengers and entered this figure on the load sheet. This weight represented a standard "average" weight per passenger of 170 pounds, including carry-on baggage. The Adjusted Weight Units Loading System is described in Arrow Flight Operations Bulletin No. 85-22, issued October 31, 1985, with an effective date of November 15, 1985. The bulletin states, in part, that, "This procedure shall be used on all passenger operations of DC-8 aircraft operated by Arrow Air, Inc." It further states, "The Adjusted Weight Units Loading System takes the place of the Weight and Balance Form, Load Manifest, or other system previously used for passenger operations." In general, this method provides the flightcrew a rather simplified system for calculating airplane weight and balance data for takeoff and landing performance. The system incorporates a loading table for use by the flightcrew from which "adjusted weight units" are taken and entered on the load sheet for passenger, baggage/cargo, and fuel weights. Simple addition of the various values leads to a total airplane weight and a center-of-gravity value.

The Safety Board examined bulletin No. 85-22 and found that it contains no method for calculating weight and balance for a passenger load that deviates from the standard average weight. However, Arrow's DC-8 Airplane Operating Manual, Weight and Balance Section, prescribes that, "actual passenger weight should be used when large groups of passengers are carried whose average weight does not conform to the Normal Standard Weight. For example, a group of large athletes, or a plane load of men would exceed the average. . . ." Also, Arrow's Operations Specifications, which were approved by the Federal Aviation Administration (FAA), state that, "Actual passenger weights are normally used." It is unclear at this time how the flightcrew of N950JW could have complied with the requirements of the manual or operations specifications because bulletin No. 85-22 apparently superseded all other weight and balance systems in effect at Arrow for DC-8 passenger operations and because no forms or loading tables were provided for calculating weight and balance when nonstandard passenger loads, such as troops, were carried. The investigation has not established how Arrow obtained approval from the FAA for the provisions of bulletin No. 85-22 without including a method for weight and balance calculations for actual passenger weights that deviate from the standard average weights. Several airlines use the Adjusted Weight Units Loading System; however, they incorporate provisions for both average and actual passenger weight calculations.

The instructions contained in Arrow's DC-8 Airplane Operating Manual are consistent with the provisions of FAA Advisory Circular (AC) 120-27A, "Aircraft Weight and Balance Control," which provides guidance to operators to establish an "approved" weight and balance program under 14 CFR Part 121. AC 120-27A contains instructions for development of weight and balance procedures to be included in an operator's operations specifications. The procedures must show that the method used will demonstrate that the airplane is properly loaded and will not exceed approved weight and balance limitations. The instructions contain provisions for both average and actual passenger weight calculations.

The investigation has revealed that the standard average weight of 170 pounds used by the flightcrew of N950JW is considerably lower than the actual weight of the passengers and carry-on baggage carried aboard the accident flight. This conclusion is supported by the following evidence:

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4. Witnesses have stated that the amount of carry-on baggage on flight MF128R from Cairo exceeded the amount on the inbound flight to Cairo, presumably because the passengers were required to wear civilian clothes upon departure from Cairo and they carried aboard their field uniform (fatigues, helmet, boots, weapon, etc.). Witnesses also have stated that, during the stop at Gander, additional carry-on items were purchased.

Although the U.S. Army estimated the weight of each passenger departing on flight MF128R from Cairo as 210 pounds, including carry-on baggage, investigators have not located the precise documentation provided to the flightcrew in Cairo before departure. The CASB investigators currently estimate that the actual weight of each passenger carried on the accident airplane was at least 220 pounds, including carry-on baggage. Calculating the weight of the passengers based on this weight figure results in a passenger weight of 54,560 pounds at Cairo, Cologne, and Gander, about 12,000 pounds in excess of the takeoff weight used by the accident flightcrew. This excess is based solely on revisions to passenger and carry-on baggage weight figures and does not consider possible errors involving the weight of baggage carried in the cargo holds.

Although the investigation has not, at this time, reached definitive conclusions regarding the effects of these weight discrepancies on the takeoff performance of the accident airplane, or their relationship to the cause of the accident, there are obvious performance penalties and safety issues involved in such operation. Further, the Safety Board, as well as the CASB, is concerned that flightcrews of other operators carrying military personnel on charter or contract flights, or on other flights on which passenger loads are not representative of the standard average weight, may be using the procedures apparently used by Arrow flightcrews.

The investigation also has revealed that the U.S. Department of Defense (DOD) has no standardized procedures or standard forms for determining or documenting actual passenger and baggage weights for the purpose of conveying weight information to the contracting airlines. In this case, when flight MF128R departed Cairo, weights reportedly were written on a slip of yellow paper. No permanent record of the weights has been found, and how those weights were transmitted to the flightcrew, if they were, remains unclear. Although the responsibility for the computation and accuracy of the airplane weight and balance rests with the flightcrew, the NTSB believes that the DOD should establish standard procedures for providing accurate weight information to commercial carriers, especially in view of the volume of such services contracted for by the DOD.

Therefore, the National Transportation Safety Board recommends that the U.S. Department of Defense:

> Develop a standard procedure and form for determining and documenting the actual weights of passengers, baggage, and cargo for the purpose of recording and conveying such weights to the flightcrews of commercial contract carriers of military personnel. (Class II, Priority Action) (A-86-21)

BURNETT, Chairman, GOLDMAN, Vice Chairman, and LAUBER, Member, concurred in this recommendation.

Jim Burnett

By: Jim Burnett
Chairman

AVIATION SURVEILLANCE

Mr. **Lehman**. Would you provide for the record any recommendations you have made to FAA in this area over the past three or four years?

[The information follows:]

The Safety Board has issued 87 recommendations to the Federal Aviation Administration [FAA] which included the subject of surveillance. Eleven of these recommendations are currently classified as open. Of the closed recommendations, in nine cases the FAA did not take acceptable action. Areas currently being addressed include: training of air carrier cabin crews, detection of persons acting as crewmen of an aircraft without a valid medical certificate, FAA inspectors documentation of the effectiveness of FAA-directed actions to correct deficiencies, and monitoring the standardization of ATC practices and proficiency of controllers.

MAINTENANCE PENALTIES

Mr. **Lehman**. Have you looked into or made recommendations to FAA regarding the penalties assessed for maintenance violations, the extent to which the penalties assessed are actually paid, or the impact these penalties have on airline safety practices?

Mr. **Burnett**. No, Mr. Chairman, we have not looked at that issue, but of course we get involved very much when the FAA withdraws a license because frequently those cases are appealed to the Safety Board. But the penalty process which goes through the Federal District Court is something that we have never looked into.

ARROW AIR INVESTIGATION

Mr. **Lehman**. To what extent is your agency participating in the Arrow Air investigation?

[The information follows:]

As mentioned earlier, several of our staff are participating in the Arrow Airlines investigation. We have had a U.S. Accredited Representative assigned from the outset and several other staff members have participated in all aspects of the investigation. For example, we had personnel in Gander on three separate occasions and in Ottawa at the CASB laboratory examining wreckage. We sent an investigator along with CASB investigators to Cologne, Germany, Cairo, Egypt, and Rome, Italy. We also had investigators working with CASB in Miami and Long Beach on various aspects of the records examinations, interviews and aircraft performance studies. The spirit of cooperation between the NTSB and CASB has been excellent.

MIDWEST EXPRESS

Mr. **Lehman**. A recent article discussing the September Midwest Express Airlines crash in Milwaukee mentioned three potential problem areas: (1) the relative inexperience of the pilot, (2) the fact that the engine was known by FAA to have a trouble-prone part, and (3) the fact that Midwest Express used an outside contractor to perform its engine maintenance.

What is the status of your investigation of this accident and to what extent has your investigation over the past six months indicated that any or all three of the areas mentioned contributed to the accident?

Mr. **Burnett**. Well, Mr. Chairman, we have just completed our public hearing on that accident which was somewhat delayed because of the necessity to do two engine tear downs, since we now have questions about performance of both engines on the aircraft.

And in addition, there are very important issues about how the pilot handled the situation as it developed which will be very important if it is determined that it is only one engine, that they lost power on only one engine. If, however, he lost power on both engines, it would be hard for any pilot to successfully handle a situation of that nature.

Certainly, the fact that the cause of the problem with the right engine was the spacer that had a history of trouble and the FAA has now required, or is in the process of requiring it be replaced, is very relevant to that investigation.

Mr. **LEHMAN**. If it is all right for your timing, Mr. Coughlin has to leave and he would like to be here for the next questions. What we will do is to give you an extra 15 minutes for your lunch hour. We will come back at 2 p.m.

AFTERNOON SESSION

AIR TRAFFIC CONTROL

Mr. **LEHMAN**. The Subcommittee will come to order.

As you know, at the request of this Committee, the GAO has been looking at air traffic controller staffing. Last year, you stated that you were continuing to investigate, very intensely, not only accidents which may involve the air traffic control system but incidents and near collisions.

The information provided to this Committee indicates that FAA does not have as many fully qualified, experienced controllers at major facilities as FAA managers, supervisors, and controllers believe are needed, and as are called for by FAA's standards and goals.

Because of this and other factors, the GAO believes FAA should impose restrictions on air traffic until both the number of full performance level (FPL) controllers and overtime requirements meet FAA's goals.

What work have you done in this area during the past year and what has your work indicated with respect to the adequacy of the number of FPL controllers, the amount of overtime being worked by controllers, and the need for restrictions on traffic?

If you believe there should be restrictions, what type of restrictions do you believe are necessary?

Mr. **BURNETT**. Thank you, Mr. Chairman.

Mr. **LEHMAN**. Yes, or no? [Laughter.]

Mr. **BURNETT**. Our work in the last year has included runway incursion investigations which we have done, which I think are about twenty in number now.

We have not been able to take a look at all of them that have occurred in the last year, but certainly that is a matter that concerns us, and in the course of that we have had a chance to look at the FAA manning situation in several control towers.

We also of course have under investigation the midair collision at Teeterboro which is one of our major investigations at this time.

We have not had an opportunity to review the GAO report that is referenced in the newspapers this morning, although the conclusion that they reached, at least as cited by the newspaper, is that the system, in order to work safely, has to have limitations on traffic, and that has been the Safety Board's position for some time now.

We are finding that the FAA does not seem to be using as much overtime as they were, although we have been concerned about their use of overtime. It seems that one of the reasons they are not using overtime is that they are in a budgetary crunch and they cannot afford to use it, which means that they are basically reducing their manning levels, in some cases below what would be optimum, and in order to make up for that, they are using supervisors as controllers, rather than leaving them in their supervisory position.

We are concerned about that because in a number of our runway incursion investigations, we found that there has been a lack of supervision of anybody acting in a back-up role when there has been a miscommunication between the controllers.

And that has been a problem that we have cited from the time of our first review of the poststrike air traffic control system.

So we think that there needs to be supervisory backup for the controllers, especially the less experienced controllers who are characteristic of the system today.

There is a solution for this, and that is controlling traffic.

Unfortunately, the solution carries with it a whole lot of additional problems for the air carriers, and for passengers who may not be able to fly where they want to, when they want to.

AIR TRAFFIC CONTROL

Mr. **LEHMAN**. In your 1983 review of the air traffic control system you concluded, "National flow control measures will be necessary and should be supplemented by local flow control during and after this rebuilding process to limit individual facility, sector, and controller workload."

Do you believe there should be restrictions at this time, right now? Isn't traffic up since 1983? Has the ATC situation improved that much, since 1983?

Mr. **BURNETT**. Well, it is true that they have largely abandoned their general program of flow control. They have sort of a spot program, when they get into a weather-related situation, or some particular development that keeps an airport from accepting the traffic that they normally have.

The total traffic level is not necessarily the key thing; it is the traffic at any particular airport, at any particular time, in relation to the number of people there who are available to handle it.

And those decisions are made on a daily basis, and it is the FAA's courage——

Mr. **LEHMAN**. I always thought an hourly basis.

Mr. **BURNETT**. Oh, yes, hourly basis, that is exactly right. And it is the FAA's courage in implementing programs that will appropriately limit that traffic, in the face of pressure from the carriers, to increase the acceptance rate, upon which the safety of the program depends. And I suspect that on some days they do a good job with that, and other days they do not, but it is hard to arrive at an overall assessment of that.

AIR TRAFFIC RESTRICTIONS

Mr. **Lehman**. Let me just carry that forward for a moment from my experience of flying. I have sat, and most people that fly have sat, on the runways, for instance in Miami, for an hour or more because of the congestion at Washington National or O'Hare or some place, and once you do that that backs up everything down the line.

And the pilot or the captain will often come on the mike and say, "We're going to have to wait here until we get the proper clearance from Washington National so that we can take off."

That is the kind of air traffic control restriction that is being imposed at this time on an ad hoc basis, flight by flight. Is that better than the kinds of restrictions that you would like to see imposed on the total number of flights to accomodate the lack of fully qualified air traffic controllers, even though now they are fully qualified in two years instead of four years? I want you to comment on that when you have a chance. Do you think that instead of using this ad hoc system, FAA should go ahead and implement some organized type of restrictions?

Mr. **Burnett**. Mr. Chairman, that is the kind of thing that we do encourage. We think that, for instance, when your aircraft is held on the ground in Miami, it is a safer situation for you and the other passengers, than for your aircraft to be allowed to take off, and then have to wait in a holding pattern waiting to get into Washington National.

Besides being inefficient in terms of fuel, it puts an additional burden on the air traffic control system.

For instance, one of the most recently highly publicized near collisions down over Georgia involved a plane that had been in a holding pattern, and the air traffic controller was taking it out of the holding pattern. They had a near-collision in the process, and that is what makes me uncomfortable.

As long as I am on the ground, on the taxiway, I feel much more secure within this system than I do in a holding pattern in the sky.

The airlines, on the other hand, would like to see the holding patterns used because there are some occasions in which air traffic control can speed up getting the aircraft in when they do take advantage of the holding pattern.

Mr. **Lehman**. Who tells that plane to sit on the ground in Miami? Does the pilot or the captain make that decision?

Mr. **Burnett**. No. That is part of the flow control that is imposed upon him. He is not allowed to take off if there is not any expectation that he will have an opportunity to land when he gets to Washington, and it is all through the en route center.

Mr. **Lehman**. Mr. Coughlin.

GAO RECOMMENDATION ON AIR TRAFFIC RESTRICTIONS

Mr. **Coughlin**. Just so our record is clear here: Specifically, do you agree with the GAO, that there should be restrictions on air traffic imposed today?

Mr. **Burnett**. In general we agree that you have to maintain restrictions. I do not know what specific proposals GAO has made, and I hate to endorse those without having a chance to study what specifically they have asked for.

Mr. COUGHLIN. Now they have suggested restrictions on the flow of air traffic.

Mr. BURNETT. Well, we have a program of restrictions now. It is a spot program of controlling traffic so that you do not have an overload at any one point produced by weather situations. Whether they, in their report, are saying that the FAA is not doing an adequate job, or not being conservative enough in that, I do not know, without reading their report.

If they are saying that they need to restrict the slot allocation program more, that is almost beyond—that is one way of providing control, it is not the only way, and I have always been reluctant to try to tell the FAA exactly how they should do it.

Now if it is the general aviation reservations system, that program, when it was in effect, had substantial safety problems. It produced some problems that were very unfortunate because it was encouraging people to fly outside of the air traffic control system, to use VFR rules in times when it might have been inappropriate.

So I would hate to see us go back to that.

Mr. LEHMAN. You mean the kind of restrictions you had during the early days of the air traffic controller strike.

Mr. BURNETT. I would be glad to give our comments for you on the record, once we have a chance to take a look at the GAO report. We had not received it, and I am not aware of precisely what it says.

Mr. COUGHLIN. Let me just ask one follow-up question from the GAO report, if I might. The GAO report, and I must say, I have become increasingly uneasy about flying; what I have heard today does not make me feel any better about flying.

The GAO reports that the percentage of full-performance level controllers at the following facilities is as follows: At Atlanta, the ratio of full-performance level controllers to total controllers is 59 percent.

At Chicago, it is 42 percent; at Cleveland, 49 percent; at Indianapolis, 45 percent; at Los Angeles, 51 percent; at Minneapolis, 46 percent; at New York, 59 percent; at Oakland, 38 percent. Could you comment on what you feel about that level of full-performance level controllers?

Mr. BURNETT. We have not looked at that in some months, since we did our last ATC——

FPL CONTROLLERS

Mr. COUGHLIN. You must have some feeling about the ratio of full-performance level——

Mr. BURNETT. But what my understanding of what full-performance level controller means, it does not mean that they are any more qualified to do what they are doing. It means that they are qualified in all positions, which gives the supervisor more flexibility in how they are used. A controller who is not a full-performance level controller should be, theoretically at least, just as qualified to do what he is doing, as he would be if he were a full-performance level. But it restricts the flexibility of the supervisor to substitute people in different positions, and therefore, it complicates their manning problems.

Now, I think what we are more concerned about right now—and we found this in the Washington National runway incursion investigation involving the helicopter and the Eastern aircraft—is that the training program is an on-the-job training program, and they were not following the rules in the Washington National tower as to the type of training that the people who do the training are supposed to receive.

They were limited as to the amount of over-the-shoulder checks that were supposed to be carried out to be sure that the controllers were achieving and maintaining proficiency.

But we have never objected to the fact that they have had people who are not full-performance level controllers, as long as they are not used on positions for which they have not been qualified.

Mr. COUGHLIN. Let me just say, remembering those numbers, DOT informed the Office of Personnel Management in May of 1985, in a request for continuance of a waiver of time and grade requirements for controller promotions, that it was essential to have at least 75 percent of the controllers at a facility as FPL's.

Mr. BURNETT. Well, I would certainly see how it would complicate——

Mr. COUGHLIN. 38 and 75 are pretty far apart.

Mr. BURNETT. Sure. It would complicate their ability to switch people between positions, and therefore to maintain their positions manned at the level that they need.

But it is important to remember that theoretically——

Mr. COUGHLIN. But you have to have at least 75 percent. What do you do with an airport of 38 percent? Do you recommend shutting it down?

Mr. BURNETT. I do not know that it is necessarily a safety problem, but it may be an administration problem for them, and if they do not handle the administration in the right way, then it could become a safety problem.

Mr. COUGHLIN. But you do not think there is a safety problem per se by only having 38 percent?

Mr. BURNETT. Not per se, although in practice it very well may be.

Mr. COUGHLIN. Have you looked at any of the centers that I cited a few minutes ago?

Mr. BURNETT. Only in the course of our accident investigations.

Mr. SCHLEEDE. I do not believe we had, in the ones that I recall.

Mr. BURNETT. And not specifically other than the ones that have been involved in accidents recently. To look at the performance of the controllers themselves, the answer to that is no. But the answer, as far as the accident investigation at Chicago, at Miami, the flight to Dallas, the Safety Board has looked at the way the work was being performed in the tower.

But I think it is symptomatic of the same problem that we are finding, Congressman, in that in order to become a full-performance level controller they have to be trained and qualified at all positions.

And they simply do not have enough people to both work the traffic and provide the training. So the training is suffering, and that is what we found out right here at Washington National.

MINNEAPOLIS RUNWAY INCURSION

Mr. COUGHLIN. Did they not have a runway incident at Minneapolis?

Mr. BURNETT. Yes. Minneapolis is one we took a look at; that is correct.

Mr. COUGHLIN. They are at 46 percent FPL's according to the report.

Mr. BURNETT. Right. I am not aware that we found any overall problem in their ability to handle their traffic. At the particular time that that took place they had a snow storm that they had not expected, and they had a really heavy ground traffic problem because flow control had asked them to accept traffic, even at the price of not letting any leave, and of course what that produced was, you pretty soon had a whole lot more airplanes on the ground there than you normally would have had.

And in that situation they had a supervisor who was having to work one of the positions instead of providing backup for the controllers.

There is no doubt that the system is strained, in terms of the number of people they have to do their job, and I do not think that, in many cases, the FAA is providing sufficient limitations on traffic to keep it from becoming a marginal situation, and that is the reason we have some of these problems.

AIR TRAFFIC RESTRICTIONS

Mr. COUGHLIN. Do you make recommendations to the FAA as to what restrictions they should have on their traffic?

Mr. BURNETT. Excuse me?

Mr. COUGHLIN. Do you make recommendations to the FAA as to restrictions that they should have on their traffic?

Mr. BURNETT. In the course of the last ATC study that we did we made recommendations to them on control of traffic. We are not in a position, staff-wise, to monitor what they are doing, except in the course of the investigations that we make.

Mr. COUGHLIN. Thank you, Mr. Chairman.

Mr. LEHMAN. I guess the answer we are still trying to get at is this. Is the system safe, in your opinion, as it is, or do you think that at this time we should put on the kinds of restrictions we had when the air traffic controllers first went on strike or some degree of restrictions?

And if not, assuming we still have a shortage of the fully qualified controllers, and traffic continues to increase, at what point would you recommend that we do put restrictions on? We cannot have unrestricted growth without an adequate number of fully qualified air traffic controllers.

We will have to have either more fully qualified controllers, or less traffic. Somewhere along the line, you have to make a decision.

Mr. BURNETT. Unfortunately, the answer I have to give you is that I do not think that it is clear to us whether the FAA is using the restrictions that they now have in an adequate manner, except that in individual situations we can see problems develop. In our analysis, I think we will relate some of those to an excess workload situation. But it is also true that a great many of the serious problems that we have investigated have taken place at a time of light traffic. It is almost like at a time of light traffic they let up, you know, but that could also be related to workload situations, because if you have to work very hard, and have a very high level of discipline for one period of time, that may promote the fact that you could relax too much the next hour.

Mr. LEHMAN. It is like the analogy that some baseball players have a higher batting percentage with men on bases than when nobody is on base.

Mr. BURNETT. Sure. So we have not completed our own analysis of what we have looked at in the last year. We have investigated about twenty cases. We decided to quit investigating more of them and try to analyze what we have at the present time, and we will be making some recommendations coming out of that. We are not really at the point right now where I can tell you what they are going to be.

PROMOTIONS TO FPL CONTROLLER LEVEL

Mr. LEHMAN. We will have some questions for FAA, when they appear before us, that have arisen from the kinds of questions that you have answered or have not been able to answer.

I am also concerned, not just about the number of fully qualified, but about the quality of the fully qualified. They now become fully qualified in two years. Formerly, they required four years. The GAO believes there are problems with the quality and amount of on-the-job training given to new controllers. To what extent have you assessed the controller training program and what is your opinion of the quality and amount of training being given to the controllers?

Mr. BURNETT. Well, as I said, we found in the Washington National investigation that they were not following their own regulations as to their training program, or to their evaluations of proficiency.

NTSB COMMENTS ON GAO REPORT

Mr. LEHMAN. Would you provide for the record the results of any recent reviews you have made of the controller training program?

[The information follows:]

NATIONAL TRANSPORTATION SAFETY BOARD

COMMENTS ON THE MARCH 1986 GENERAL ACCOUNTING OFFICE STUDY: "SERIOUS PROBLEMS CONCERNING THE AIR TRAFFIC CONTROL WORK FORCE"

The General Accounting Office (GAO) study relating to the U.S. air traffic control (ATC) system represents a comprehensive survey of the views and opinions of controllers, supervisors and managers concerning the working conditions at major air traffic control facilities in the continental United States. The 4,500 radar controllers, 1,000 supervisors and 74 facility managers surveyed by the GAO provided their views on the adequacy of staffing, workload, overtime, training, morale and management practices. Most of the 75 percent who responded described the safety level of the ATC system as adequate to excellent. However, controllers and supervisors indicated a strong concern about their ability to sustain this level of safety over a period of time.

The GAO report points out that: the FAA has fallen short of meeting its goals; the FAA has not been able to hire and train new controllers at the rate necessary to meet staffing needs; controllers are still required to work overtime; and the FAA has not improved the quality of its training and human resource management programs. GAO data show that air traffic activity has increased to new record levels. Finally, GAO reports that controllers themselves believe that staffing levels are inadequate, that they are working too long at control positions and that they are controlling more aircraft than they should during busy traffic periods.

The findings presented in the GAO report are not surprising. They are significant, however, because more than 4 years after the strike, the same problems remain unresolved and have the potential to degrade the overall level of safety of the ATC system.

The Safety Board completed a special investigation of the ATC system shortly after the controller strike in 1981. This investigation concluded that the continued safe operation of the system would depend on the proper management of the total air traffic in relation to the capability of the controller staff based on experience and training, and that programs were needed to assure that controllers were observed to detect performance degradation resulting from stress and fatigue. These concerns were addressed in safety recommendations to the FAA.

As a result of this ATC system study, the Safety Board issued a total of six safety recommendations to the FAA which addressed, in part, the need to:

- take action to reduce controller fatigue and stress;
- limit supervisor activities to assure that supervisors are available during periods of high traffic demands;
- limit controller workloads; and
- enhance and standardize student evaluations during training.

Again, in late 1982, the Safety Board conducted a formal evaluation of the ATC system. This evaluation prompted concern about the adequacy of the controller training program, the level of controller proficiency and experience and the continued lack of a program to assess the potential for controller stress and fatigue. One of the most significant findings of the report was a concern that the FAA's action to remove restrictions and permit an uncontrolled increase in traffic were proceeding too rapidly. The report stated, in part:

> "The traffic volumes handled by the ATC system have been allowed to increase to 100 percent of prestrike levels with only about 50 percent of the prestrike work force. Return of the ATC system to 100 percent access to users is based on the assumption of continuing overtime work and reduced vacation time for many controllers. The Safety Board is concerned that these increases, before supervisors are released to their previous roles, may have a deleterious effect on the level of safety of ATC operations."

A total of thirteen recommendations were sent to the FAA, which addressed issues including the need to:

- control controller stress and fatigue;
- maintain an adequate level of staff specialists for maintenance of computer equipment;
- maintain appropriate and adequate supervision at all times;
- postpone increases in air traffic volume until sufficient controllers are trained; and
- provide guidance for the use of newly certified developmental controllers for on the job training;
- conduct on the job training more commensurate with existing workload.

Since this study was released in May 1983, the Safety Board has investigated several incidents and accidents which involved the compromise of required ATC separation standards. These investigations involved runway incursions between aircraft that were taxiing and taking off/landing and also involved near midair collisions between aircraft both en route and in holding patterns. The Safety Board's findings on many of these investigations continue to illustrate concerns about controller staffing levels, training and morale, the continual use of overtime and the increase in air traffic without concurrent and effective traffic management.

For example, on December 13, 1983, a Japan Airlines B-747 collided with a pickup truck in Anchorage, Alaska. Recommendations were issued to:

- o Enhance coordination between local and ground controllers and
- o Emphasize proper runway usage procedures during training.

On May 9, 1984, four air carrier airplanes and one corporate jet were involved in an operational error over Philipsburg, Pennsylvania, at 31,000 feet, which resulted in four distinct conflicts in which the required vertical and/or lateral separation was lost. The Safety Board's investigation addressed serious deficiencies in the air traffic control staffing and management, peak traffic flow, sector boundaries and radar handoff procedures. Seven safety recommendations were forwarded to the FAA recommending changes. In part these recommendations stated:

- have at least 2 controllers at each sector during busy traffic periods,
- assure that supervisors are available and on duty during periods of high traffic demands,
- establish a formal program to provide sufficient controller staffing at all control stations during periods of high traffic volumes,
- develop enhanced hand off procedures,
- take interim measures to control traffic access to the ATC system,
- expedite the development of the "enroute sector loading" program to more effectively manage traffic volumes.
- take action to revise sector boundaries and preferential IFR routing to reduce traffic conflicts.

On March 31, 1985 at Minneapolis two DC-10's had a near collision when one airplane was cleared for takeoff at about the same time another plane was cleared to cross the same runway. A collision was averted only when the captain of one airplane rotated to a takeoff attitude at a lower than normal rotation speed, lifted off the ground prematurely and over-flew the other plane. Two safety recommendations were issued to once again emphasize the importance of accurate coordination between local and ground controllers and to develop specific procedures, standards and responsibilities to be used during coordination between local and ground controllers involved in requesting and approving airplanes to taxi across active runways.

This incident also substantially contributed to the Safety Board's decision to undertake a special investigation of the runway incursion problem. This project is based on the investigation of some twenty-five runway incursion incidents which occurred between March of 1985 and February of 1986, and is currently in its final stages of completion.

For the past several years, the FAA generally has been responsive to the Safety Board's safety recommendations which addressed issues relating to the ATC system. For example, the FAA has implemented programs to evaluate and seek solutions to problems regarding system capacity, traffic management, overtime, and controller working conditions. In a letter to the Chairman of the House Subcommittee on Investigations and Oversight, dated August 3, 1984, the FAA Administrator announced 12 broad programs relating to the capacity of the ATC and Airport System to handle increased air traffic. These programs included staffing/overtime reviews, retaining experienced controllers, airport and runway construction, reviews of sector design and loading, system capacity and demand studies, flow management, controller training and others. In the same letter the FAA listed eight additional initiatives about controller working conditions and air traffic management. These included a complaint "hot line", employee survey, listening sessions, a National Facility Advisory Board, improvement in human resource management and others. However, the GAO report and the Safety Board's continuing investigations of ATC operational errors and near midair collisions cast some doubt concerning the actual effectiveness of these programs at the facility level.

The ATC rebuilding effort has been underway for more than 4 1/2 years. Unfortunately, staffing figures released recently by the FAA indicate little or no progress has been made in increasing the number of full performance level (FPL) rated controllers at critically staffed en route centers. Many of these centers have only one half or less of their authorized FPL staffing level.1/ For example, Chicago Center had 148 FPL controllers on October 1, 1985, and 150 on February 28, 1986; during the same period, Cleveland Center increased from 194 to 195; Minneapolis went from 114 to 121; Los Angeles was up only 2 from 142 to 144; Oakland went from 105 to 114; New York increased from 156 to 163; and Indianapolis actually decreased from 121 to 118. These seven centers had a net increase of only 25 FPL-rated controllers over the five-month period from October 1985 to the end of February 1986.

During the period since the strike air traffic has continued to increase to record levels which has effectively neutralized FAA initiatives to rebuild the ATC system in a timely manner. In fact, at many of the busy ATC facilities, high controller workload, which was intended to be short term "to make the system work," has become the norm. What was

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1/ It should be noted that the number of FPL controllers is not necessarily the only measure of adequate staffing because developmental controllers may be just as qualified as the FPL controllers in a given sector or other area of responsibility. The difference is that the FPL controller is trained and qualified for all the assignments within a facility and therefore can be used wherever needed. Therefore, the more FPL controllers are available, the more flexibility the FAA has in effectively and safely staffing the system.

viewed as the exception is now apparently the new standard. This dichotomy of increased traffic and reduced staffing has produced a requirement for controllers to continue to work extended periods on position, work six-day weeks, train new controllers and handle more traffic during peak periods of activity.

Safety Board investigations of ATC operational errors and runway incursion incidents have continued to identify the need for corrective actions concerning controller staffing shortages and the need for more effective traffic management. The Safety Board agrees with the conclusions reached by GAO that FAA must continue and improve their efforts to hire and train more controllers. Also, even after a full-strength staffing level is defined and achieved, the FAA must limit the air traffic volume using the ATC system to maintain a safe level which considers controller workload as well as other limiting factors.

It should be noted that although overall traffic has increased only about 7.7 percent in 4 years, according to the GAO statistics, the traffic in certain high density airports has increased substantially more than 7.7 percent; e.g., 54 percent at Newark, 41 percent at Chicago, and 37 percent at Baltimore-Washington. The substantial increases at the high density airports have imposed corresponding increases in the enroute centers that service the airports. Much of this increased traffic has resulted from the carriers' practices of "hubbing" and developing hub feeder relationships with commuter airlines. We believe that the traffic in those enroute and terminal sectors feeding these high density airports is reaching or approaching a saturation level during periods of peak traffic.

The traffic level which can be safely handled by the ATC system is not directly correlatable to the controller staffing level. Presumably with current staffing, the FAA is able to provide a controller for all essential positions during periods of peak traffic, that is, the enroute ARTCC,'s Terminal TRACON sectors, and tower facilities. Given this premise, the traffic saturation level for a portion of the system is determined by the number of airplanes which a sector controller can handle safely -- this in turn is dependent on the airspace volume, the geographical and airway configuration as well as the controller's proficiency. Another measure of traffic saturation during peak traffic periods is the safe acceptance rate of the airports which is in turn dependent upon runway configuration, vortex turbulence considerations, taxiway and ramp space and weather factors. Therefore, the addition of more controllers will not necessarily permit further traffic increase beyond present saturation levels.

However, the continued safety of the ATC system when approaching the saturation level depends upon the proficient performance of the controllers. Factors which can degrade their performance include chronic and acute fatigue. The former might result from continued requirements for overtime without vacation or rest, and the latter might result from a prolonged period of active control function during a daily work shift. Thus, while the staffing level may not be the determining measure for traffic saturation, it probably limits the length of time that the system can operate at peak level safely. More staff and greater individual experience would permit the supervisors to perform supervisory rather than control functions, to eliminate overtime, to rotate controllers at active positions, and to provide other desired flexibility. These goals will not be achieved until the controller staff is increased to its authorized level with an associated experience level indicated by a full complement of FPL qualified controllers.

The problems of trying to hire and train additional controllers apparently preclude a near-term solution to staffing shortages. Therefore, the most important short term strategy remains the effective management of traffic volumes -- a complex program. It involves both central flow control in Washington and facility flow control in the field. These programs attempt to achieve an optimum balance between system capacity and system demand. Currently, the FAA's flow control program measures ATC system capacity in terms of airport acceptance rate. Limited traffic levels are established when specific airport acceptance rates are reduced because of weather, facility outages, construction and other factors. However, the saturation level of ARTCC and TRACON sectors as determined by controller human performance limits is not reflected in present traffic management programs. The FAA must define the traffic level which can be safely handled by each sector controller and include this factor in an automated traffic management program, a program which is dynamic and sufficiently flexible to limit system access or reroute traffic as necessary to avoid enroute sector, terminal area or airport overload.

CONTROLLER ATTRITION

Mr. **Lehman**. The GAO points out that the attrition rates of newly hired controllers have been higher than in the pre-strike period, and higher than FAA anticipated.

According to GAO, FAA believes these higher attrition rates result from fewer applicants having air traffic control or aviation experience than before the strike.

Despite the lack of prior experience of the new hires, and the problems with the on-the-job training, FAA has continued to request from OPM and has received waivers of the time-in-grade requirements, so that controllers can become FPL's in about half the time that it took prior to the strike.

Do you believe this accelerated rate of promotion is sound?

I think there are two issues. One is the promotion rate. The other is the pool from which you draw the people that go into training, which is probably, according to this, a less satisfactory pool than those that were trained before the strike. Those who trained previously were maybe former pilots or computer people or whatever, and had a higher level of basic experience before becoming air traffic trainees.

Mr. **Burnett**. Mr. Kampschror.

Mr. **Kampschror**. Well, Mr. Chairman, we have no reason to dispute the GAO's findings about the quality of the prospective air traffic controllers, certainly not yet. I think that the washout rate at the FAA academy is something like 40 percent of the trainees, which would seem to be rather high.

But at this point, we simply cannot really fully respond to the GAO's conclusions in this regard.

Mr. **Burnett**. I think the FAA admits, Mr. Chairman, that what they do at Oklahoma City is not really a training program as much as it is a screening program, where they screen out people and try to eliminate the people that should never even go into the towers. That the real training is done in the towers.

Yet I do not think we are in a position, from what we are seeing now, to vouch for the integrity of the training programs that are taking place in the towers, because we have seen examples of where they are being short-cut, or not being carried out in conformance with the rules.

I think there certainly is room for consideration as to whether or not the FAA is following the correct strategy.

The military controllers try to really train theirs, do an in-class training program that is a true training program, so that they have gotten them to a certain level of proficiency before they even go into actual control of traffic, so that you only have to sort of "polish them up" in the on-the-job training situation. However, I suppose that if the FAA attempted to switch to that sort of strategy, it would slow down the progression of new controllers.

Mr. **Lehman**. Would that be bad?

Mr. **Burnett**. Well, it would not be bad as long as they were willing to control the traffic, to meet the number of controllers that they had available to handle the job.

But if they slowed it down and were not willing to do that, then we would have an increasing problem.

Mr. LEHMAN. If I am reading you right, you would say that the most sound thing for the FAA to do would be to slow down the training of new controllers and restrict the traffic, and you would have a safer system.

Mr. BURNETT. That undoubtedly would produce a safer system.

COMMUTER AIRLINES

Mr. LEHMAN. Thank you very much. The regional airlines seem to be experiencing a very high rate of pilot attrition as pilots from these smaller carriers move on to the larger airlines.

What work have you done in this area, and to what extent have you found this to be a problem? To the extent that it is a problem, how have you proposed, or how would you propose that it be addressed?

[The information follows:]

Our investigations of the Bar Harbor Airlines Beech 99 accident near Auburn, Maine, and the Henson Airlines Beech 99 accident near Grottoes, Virginia disclosed considerable pilot attrition in the recent past. We have preliminary indications of a similar problem at Simmons Airlines, which crashed recently near Alpena, Michigan. For example, Bar Harbor Airlines experienced turnover of 5 to 6 pilots in 1983, 6 to 7 pilots in 1984, and 20-23 in 1985. Henson Airlines experienced less than one pilot loss per month in 1982, about one per month in 1983, about one per week in 1984, and about 70 pilots in 1985.

We do believe that such rapid turnover of pilots is a problem, especially if the average experience level of new-hires decreases, which was the case at those two airlines. The Board's analyses of these two cases are not yet completed, so no safety recommendations have yet been formulated. We intend to evaluate the influence, if any, that pilot selection, training and turnover issues were related to the causes of these accidents. These factors will be examined in context of the airline management and FAA oversight factors.

AVIATION MAINTENANCE

Mr. LEHMAN. Mr. Coughlin, do you have any more questions that you would like to ask on the air traffic controllers?

Mr. COUGHLIN. Not at this time, Mr. Chairman. Let me ask one question, going back to maintenance for just a minute, if I might, beyond the air traffic controllers.

Have any of the accidents that you have investigated now, other than general aviation, been attributed to poor maintenance?

Mr. BURNETT. We have some, Congressman, that involve engine problems. It is important to note that, in none of these do I think we have an issue of the airline having had poor maintenance.

Mr. COUGHLIN. In none of them?

Mr. BURNETT. In the sense that the day-today maintenance provided by the airline has been or is an issue. There is an issue as to what is—for instance, Midwest Express in Milwaukee, an issue as to what was done at the overhaul facility, which, of course, is a maintenance program.

Mr. SCHLEEDE. Well, the Japanese Airlines 747 was a repair; it was not an airline maintenance problem; it was a repair, as a result of damage, that did result in that accident. And the Bar Harbor Airlines Beech 99, one of the issues—that report has not been written—but one of the issues examined during our public hearing and investigation had to do with the maintenance practices of sealing the windshield to prevent water from coming in on the instruments.

We are not sure whether that is related to the cause of the accident but it did occur, and there were multiple problems there with that repair.

Mr. **Burnett**. And also, we had the American Airlines incident in which the engine fell off, in which the precipitating event was a leak in their toilet system which caused the formation of blue ice on the exterior of the aircraft, which broke off and was ingested into the engine.

Of course the FAA penalized American Airlines for their maintenance in that regard.

ARROW AIR ACCIDENT

Mr. **Coughlin**. How about Arrow and Midwest?

Mr. **Burnett**. Well, I do not know that we have, really, despite all the discussion about Arrow, that we have a maintenance issue in Arrow right now.

Mr. **Schleede**. Not in what the Canadians are examining. The issues in that accident are not focused on maintenance of the aircraft.

Mr. **Lehman**. I thought you implied earlier that part of the problem with Arrow may be in the way that the people were loaded on the plane, and the weight of the passengers with their gear.

Mr. **Burnett**. Yes. Of course that is an operational consideration, not a maintenance one; but certainly, that may have complicated whatever problem they had.

I do not think anyone sees that, right now, as being the instigating problem, but it made it more difficult for them to deal with whatever they were dealing with.

MIDWEST EXPRESS ACCIDENT

Mr. **Coughlin**. How about Midwest?

Mr. **Burnett**. Midwest Express. Clearly, there was an engine failure there, and there are things that relate to that, not to the maintenance program of the airline, but to the overhaul facility.

There may have been a second engine failure, and again, that is related to some of the overall problems that we are seeing now with the JT8D engine which is the one in most common use for air carrier transportation in the United States.

Mr. **Coughlin**. Thank you, Mr. Chairman.

POTENTIAL ARROW AIR MAINTENANCE ISSUE

Mr. **Burnett**. We do have one potential maintenance issue in Gander, which has to do with a potential rubbing that had been discovered on the yoke, which may have had some influence on the ability to control the aircraft.

That is still very much under investigation and really has not been developed.

Mr. **Lehman**. We will provide you with some of this information that you do not have, and we would hope that you would be able to provide our subcommittee with your responses to this information.

Mr. BURNETT. Thank you, Mr. Chairman.

WIND SHEAR

Mr. LEHMAN. According to a recent Wall Street Journal article you stated that; "Some flight crews are not receiving the quantity or quality of training needed to safely navigate wind shears."

Wind shear has been a problem area for a long time. What recommendations has the Board made regarding pilot training and wind shears, and to what extent do you believe pilot training can help reduce the number of wind shear accidents?

Mr. BURNETT. Mr. Kampschror.

Mr. KAMPSCHROR. Well, the Board has made several recommendations, Mr. Chairman, regarding the pilot training program for prospective wind shear encounters, and the FAA has recently contracted with a major carrier and a manufacturer to develop a comprehensive wind shear training program, and I think this will go a long way towards relieving the deficiencies that the Safety Board has found in these programs.

Mr. LEHMAN. Wind shear reportedly was a major factor in the Delta L 1011 crash at the Dallas-Fort Worth Airport last August. I noticed just a few weeks ago that the Washington Post said that Delta was revising its L 1011 crew training.

What has your investigation of this accident indicated with regard to Delta's wind shear training program?

Mr. KAMPSCHROR. Yes, sir. They did have a wind shear training program, although we did find that they did not record the training per se, but that supposedly all of their pilots did get the wind shear training program in the simulator.

Now I just checked this morning, and as far as I know, they have not revised their simulator wind shear training program.

I do not know the basis of the Washington Post report in that regard.

Mr. LEHMAN. If you can find out any additional information for the record on this program, please provide it.

Mr. KAMPSCHROR. Certainly.

WIND SHEAR DETECTION EQUIPMENT

Mr. LEHMAN. This accident has also highlighted the need for the installation of wind shear detection equipment.

In this regard, there has been some confusion of FAA's next generation weather radar (NEXRAD) program with the need for terminal area doppler radars. I notice that your justification states that NEXRAD "will not be of significant assistance in addressing the terminal area wind shear problem".

Would you elaborate on the difference between NEXRAD and terminal area doppler radars? I guess NEXRAD is en route doppler, isn't it?

Mr. KAMPSCHROR. Yes, Mr. Chairman, NEXRAD is a long-range weather radar, very long-range, upward to two and three hundred miles.

It is an S-band radar which makes it less susceptible to attenuation.

But it does not have the fine resolution that is needed for the terminal doppler radar, and which is a C-band radar.

So there are significant differences in these two radar systems, and you need the finer resolution in the terminal area to develop the specific wind shear data that the controller can pass on to the pilot.

Mr. **Burnett**. It does provide assistance in the en route aviation environment, and NEXRAD provides that assistance, as well as doing a lot of things in avoidance of tornados, or predicting tornados, and that type of thing.

So it is an important program but it does not solve our problem with the need for terminal doppler radar to give us wind shear warnings.

HENSON AIR LINES

Mr. **Lehman**. What is the status of your investigation of the September Henson Airlines crash in Virginia? You have already commented on that, but is there anything you want to add to the status of your investigation of that?

Mr. **Burnett**. One other thing I might comment upon. One of the problems we found there was there is a very high rate of attrition among Henson's pilots.

They have had to reduce their qualifications for pilots, what they are looking for, tremendously, and I think I also indicated that the FAA inspector who was inspecting Henson had been involved in trying to help them qualify their new Short Brothers Aircraft that they were purchasing.

So he had been spending virtually all of his time doing that and the only surveillance that the airline was getting, as far as operational surveillance, was when he would fly back and forth on their plane, back and forth from Baltimore to Salisbury.

Other than that, there was no surveillance.

PILOT QUALIFICATIONS

Mr. **Lehman**. Out of this unsatisfactory condition, have you made any recommendations to FAA on how they could better supervise the qualifications for pilots on these new small commuter airlines?

Mr. **Burnett**. Not yet, Mr. Chairman, but I feel certain that there will be recommendations addressing those issues in our package when we approve this report.

Mr. **Lehman**. And that will be approximately when?

Mr. **Burnett**. May or June.

Mr. **Coughlin**. Can we hold you to that?

Mr. **Burnett**. Within the next six months, Mr. Chairman. We will not make any promises.

Mr. **Lehman**. Well, you know, the next six months is something we can laugh at now, but the next six months could cause a serious tragedy.

Mr. **Burnett**. Certainly, Mr. Chairman, we are aware of that but we can only do as much as we can do, and we have a very heavy workload.

Of course we may also put our recommendations before the reports are adopted, but we had our hearing within the—I held a hearing on Henson late in February, three weeks ago, so a lot of this information we have just received in the last two or three weeks.

Mr. LEHMAN. You know, if I were you, I would try to get something on paper to FAA as soon as I could, so if anything happened, it would not be——

PBA AND GALAXY AIRLINES

Mr. BURNETT. We are always sensitive to that.

Mr. LEHMAN. In last year's hearing we discussed your investigations of a Provincetown-Boston Airlines crash in December 1984 and a Galaxy Airlines crash in January 1985.

What did you determine to be the probable causes of these accidents, and what major recommendations did you make?

Mr. BURNETT. I will call on Mr. Schleede to respond to that as to the Galaxy Airlines investigation.

Mr. SCHLEEDE. The Galaxy Airlines report, Mr. Chairman, has been adopted by the Board, and I cannot quote the cause verbatim, but it in general cited a breakdown in the crew coordination, and the captain's failure to monitor his air speed during liftoff with a vibration that was caused by an open air start access door. The distraction of the door. It did not cause the airplane to be unflyable, but it distracted him such that he failed to monitor his air speed and the airplane descended to the ground.

PBA ACCIDENT INVESTIGATION

Mr. LEHMAN. And how about the Provincetown-Boston?

Mr. BURNETT. Mr. Kampschror.

Mr. KAMPSCHROR. Well, Mr. Chairman, we admit this has taken a very long time to investigate and come to grips with. Much of the difficulty, of course, was related to the fact that these type of airplanes have no CVR or FDR, which is a problem the Board has repeatedly addressed.

Also, it involved a very complex structural failure of an aircraft produced in Brazil. The Board did complete a public hearing in August, in Florida. Subsequent to that public hearing, during a technical review we had, I believe in October, some new information came to light that disputed previous information that we had, and so we had to go back and do some more testing to confirm the strength of elevator control rods.

And the data that we got back—and we reconfirmed it through our own testing—was just completed in mid-January of this year.

So that has delayed the report quite a bit, but there is a final version in draft stage right now, and we hope to have that, again, completed within several months.

Mr. LEHMAN. It is a long time, and some of these planes are still flying.

Mr. KAMPSCHROR. Well, I think that the Board has assured itself that there is nothing wrong with the Embraer 110 P1 and P2 airplane.

Mr. LEHMAN. Is that the one where the tail fell off?

Mr. KAMPSCHROR. Yes, sir.

Mr. Burnett. Basically, Mr. Chairman, we had to go outside to get some technical analysis as to the flutter problem and the nature of the structural failure. We did not have the expertise to do it.

And then we subsequently found out that Embraer had given us erroneous data on which that was all based and it had to be redone.

And of course we have a hard time controlling the kind of information we get out of Brazil. So that has basically been the reason for the delay. And there has been an airworthiness directive issued which has addressed one of the problems that we uncovered in the course of that investigation already.

AIR INDIA

Mr. Lehman. In addition to the numerous domestic accidents, there have also been several major overseas accidents, such as the Air India and Japan Air Lines crashes.

What role has the Safety Board played in these accident investigations? And with regard to the Air India crash, last October you indicated that your agency and the FAA intended to spend over $700,000 to salvage parts of this wreckage, which you indicated were extremely important to the investigation. How much did the other participants (India, Canada, et cetera) in this investigation contribute to this salvage operation, and what additional information resulted from the recovery of this wreckage?

Mr. Kissinger. Okay. Well, actually, we spent $291,000; our original estimate was $351,000 but we got a deal from them. It only cost us $291,000. And there have been substantial contributions from other countries.

Canada, for example, has put in $13 million in Canadian dollars, which I guess is probably about $9.5 million U.S. dollars.

Great Britain has put in $300,000; India has put in $750,000; and Ireland has put in about $200,000.

So we think that our contribution that we put in was money well worth spent.

Mr. Burnett. Now our $291,000 was matched by the FAA. We split between us contributions that we made.

We had men, of course, as this reflects, deeply involved in helping the Indians with the recovery effort through U.S. resources, and we have had quite a bit of personnel tie-up with that over in Ireland, examining the wreckage as it came in.

And in my meeting with Chairman Dêschenes of the Canadian Safety Board, which will be upcoming this month, I hope to discuss this accident investigation further. The bomb experts that we have from the U.S. still maintain that they have not found convincing evidence that there was a bomb aboard this aircraft.

Mr. Lehman. What did you find out?

Mr. Burnett. Well, the Indians have made a determination, that they are satisfied with, that there was a bomb aboard the aircraft and that that is what caused the accident.

The FAA's bomb expert is not willing to—he is not saying there was not a bomb but he is saying he has seen no evidence of it yet.

So I am really left in a feeling of insecurity about this whole thing, that we could ultimately come up with some aspersions cast on the integrity of the 747 and really not have proof as to what did happen.

Now it is possible that the Canadians may have some evidence that the Royal Canadian Mounted Police have, that we have not had access to, that will establish the fact of whether there was or was not.

But if that is the case we do not have it in our hands at this point.

So I am not ready to say that we are through with this accident investigation at this point.

Mr. **Lehman**. Did the recovery of the wreckage give you any information you did not already know?

Mr. **Burnett**. If there was a bomb aboard, a representative of the FAA says that you could prove it from the wreckage. The problem is, we have only recovered some of the wreckage. We quit when the weather got bad, and we got what we thought was the most important, and he does not find anything there that convinces him that it was a bomb.

Mr. **Kissinger**. But the wreckage did enable us to discount several of the theories.

Mr. **Schleede**. The pressure bulkhead was one part that we wanted to get up after the JAL accident and we got part of that up.

Mr. **Lehman**. The rear bulkhead?

Mr. **Schleede**. Yes, sir.

JAPAN AIRLINES

Mr. **Lehman**. We also mentioned the Japan Air Lines crash. Did you spend some time investigating that?

Mr. **Burnett**. Yes, we have spent a lot of time on it as well as the FAA, in providing assistance in that investigation, and I think we provided very valuable assistance to them, although, diplomatically, it was a very awkward situation. Mr. Schleede went over there himself.

RUNWAY INCURSIONS

Mr. **Lehman**. It was quite a tragedy.

In recent months you have reportedly been expressing concern about the number of near collisions during takeoffs and landings. Last October you reportedly stated that the Board had looked into 20 near misses in the last five months. What has been the reason for this apparent increase in close calls, and what actions have you recommended to alleviate these incidents?

Mr. **Burnett**. Well, we had made recommendations to the FAA coming out of this and among those have been recommendations that they formalize the hand-off procedures between the local controller and the ground controller as to who controls the runway. This has been something that has been done on almost so informal a basis that sometimes the controller will just motion or grunt or say some things that when they are not working with the people that they ordinarily work with, provide a lot of basis for misinterpretation.

And the FAA has all of those under evaluation. Unfortunately the near ground collisions have not stopped. In fact, the most recent one, I think, was last month.

Mr. Kissinger. Last week in Chicago.

Mr. Burnett. And we do have that one under investigation although we had hoped not to have to investigate any more of these so that we can complete the analysis on what we have looked at.

CHALLENGER SHUTTLE ACCIDENT

Mr. Lehman. Are you involved in the space shuttle investigation?

Mr. Burnett. Yes, sir. We have three people who are working right now with the space shuttle investigation. Mr. Armentrout who is the director of our Bureau of Accident Investigation, is director of NASA's vehicle recovery and reconstruction group which is responsible for the recovery of the wreckage and the reconstruction in a mock-up situation in a hanger, and also the metallurgical and chemical analysis of the wreckage.

He is being assisted by Mr. John White, who is one of our very experienced structures investigators, and also by Dr. Merritt Birky who is our fire scientist that we brought on after the Air Canada inflight fire.

They are detailed to NASA in that they are reporting to them and not back to us. We would hope that they will be completed with most of their work in the next couple of weeks anyway and will be able to be back.

We feel that we are getting a big benefit out of our participation in that investigation because the shuttle involves a lot of composite materials, and no one understands how these materials break up when you have a crash. There is just very little information available on that, and since our investigators are having a chance to observe a lot of broken composite materials to see how they broke, it is going to be something of great value to us in aircraft accident investigation because, as you know, composite materials are now being used extensively in the new generation aircraft.

Mr. Lehman. Before we leave the air part of our questions, do you have any additional questions?

EASTERN AIRLINES/LA PAZ, BOLIVIA

Mr. Coughlin. Just one, Mr. Chairman.

Are any additional attempts being made to get the data recorders from the Eastern plane that went into La Paz, Bolivia?

Mr. Burnett. No. We sent an expedition up there to see if we could find them. Many of the people on the expedition became seriously ill with altitude illness and the situation they found there was wreckage scattered all over a long distance, several hundred yards. There was at least one big fissure or cravass in the middle of it, and some of the wreckage had fallen off into there.

It has all been buried in snow. They did excavate and find the tail section where we would have hoped to have found the recorders, but did not find them. So we have no hope of ever recovering the recorders from that plane.

Mr. **LEHMAN**. Would you like to ask some more questions, Mr. Coughlin?

SEAT BELT LAW ENFORCEMENT

Mr. **COUGHLIN**. Thank you, Mr. Chairman. Last year, you stated that without vigorous enforcement, mandatory seat belt laws would have only a marginal beneficial effect on safety. Recently, it has been reported that seat belt use in New York and New Jersey has dropped off considerably from the levels initially observed immediately following the passage of mandatory seat belt laws by these states.

In view of the seat belt use rate, do you believe passive restraints should be required to reduce automobile related fatalities?

Mr. **BURNETT**. Well, I had anticipated, of course, that we would see some of this. I am hopeful that the states will decide to provide vigorous enforcement, although we have seen many examples of states that have passed very low fines or restricted the law enforcement people to only writing tickets when they arrest someone or stop someone for some other violation. And I do not consider seat belts and passive restraints to be an either/or situation. Passive restraints are designed to be used with seat belts, so the fact that we get seat belt use up would not preclude the use of passive restraints.

The connection between them, I think, has been that if we had moved first to require passive restraints, we might never have made a serious effort to mandate the use of seat belts. I cannot imagine that if we are considering only mandating, only using passive restraints based on the passage of mandatory seat belt legislation, that those states that do not have plans to enforce the legislation would be counted as really having mandatory legislation.

OCCUPANT RESTRAINT STUDY

Mr. **COUGHLIN**. In your justifications you indicated that you are conducting a special study on the performance of occupant restraints because information on the real-world performance of seat belts in accidents has not been systematically collected and analyzed.

As I understand it, NHTSA has been collecting information on seat belts for years. What problems are there with NHTSA's data and what unique or additional information do you intend to gather?

Mr. **BURNETT**. Mr. Sweedler?

Mr. **SWEEDLER**. Yes, sir. Actually NHTSA has not systematically collected data to evaluate the real-world performance of seat belts. Their data are primarily on seat belt usage. In fact, no one has really collected the type of data that we are collecting in this investigation. This is a unique accident investigation program.

Mr. **COUGHLIN**. What do you mean by real-world?

Mr. **SWEEDLER**. Well, what happens to a person in an accident while wearing a seat belt?

Mr. **COUGHLIN**. Do they not have those dummies crashing into walls?

Mr. **Sweedler**. Yes, but they are not dummies crashing in actual accidents.

There are no requirements, NHTSA has no requirements to test active seat belt systems dynamically.

Mr. **Kissinger**. Actually we did a study a few years ago that when we looked at the whole history of the 208 rulemaking process and some of us were appalled when we found out that they did very little, even laboratory testing of belt systems and that most of their testing that they had done was in the laboratory and was specifically oriented towards second and third and fourth generation airbags.

Now, it is true that NHTSA has systems in place called the Fatal Accident Reporting System and the National Accident Sampling System, in which they collect data on large numbers of accidents. And you can go to those data and you can get some information about seat belts and you can derive some statistical inferences with respect to the effectiveness of seat belts. But they have not—what we are doing is collecting very detailed information on the actual performance of those belt systems in real-world accidents.

Mr. **Coughlin**. What is the status of that study?

Mr. **Burnett**. We have completed all the accident investigations and now we are in the process of the analysis and the drafting of the report. And we are going to do that in two stages. The first is going to be an analysis of problems seen with lap belt systems alone, the kind of systems that we have in the rear seats right now in the American automobiles and what our accident investigation shows us is some unanticipated problems with lap belts and injuries that can come from the usage of them.

Mr. **Coughlin**. Have you developed any information that indicates that lap belts or seat belts are not useful in reducing injuries?

Mr. **Burnett**. Well, one of the things that we will be considering in the course of this completion of this investigation is whether or not lap belts alone ought to be, whether or not we ought to add total harness systems to the rear seats.

Certainly we have found in several cases that lap belts alone produced injuries where injuries would not have otherwise taken place.

Mr. **Coughlin**. What about an aircraft where you only wear a lap belt?

Mr. **Burnett**. Well, the problem that you have in aircraft is that the seat strength is so low, that if there is very high loading on it, the seat is going to break.

And the lap belt is not any longer going to be a part of your problem. But that is one of the things that we are analyzing right now to see what the difference is.

Mr. **Coughlin**. You do not use shoulder harnesses in aircraft?

Mr. **Burnett**. No.

Mr. **Sweedler**. Passenger seats are designed such that the upper torso is protected because the forward seat goes forward. You do not have that in an automobile.

CHILD SAFETY SEATS

Mr. COUGHLIN. In the past, you have actively supported the passage of child safety seat use laws and all states now have such laws. How vigorously are these laws being enforced, and how effective have they been in saving lives?

Mr. BURNETT. Well, they have not been as vigorously enforced as we would like for them to be. Some of them, in fact, have provisions in them that make them virtually unenforceable. However, I notice that when you compare data for child fatalities from 1983 to 1984, in that period there was a substantial reduction in child fatalities even though fatalities overall went up 2 percent. When you plot one against the other, for some reason, the lives of 130 children under 5 were saved and I think that probably, although I do not have proof of it at this point, probably the major reason for that is the child safety seat legislation. So we are pleased with the benefit that we are already receiving out of that but there is much more benefit to be received if we can get active enforcement in all states.

Mr. COUGHLIN. According to your justification, the actual use rate for child safety seats is below 50 percent and, of those that are used, 65 percent are misused. What is the reason for this, and what do you believe can and should be done to increase use and decrease misuse?

Mr. BURNETT. Well, the misuse arises from not following instructions. And we have addressed recommendations to the manufacturers as to how to improve their instructions and also to how to make them permanent so that they will not be lost as the seats are passed from hand to hand.

Even though we find a high rate of misuse, we find that there is a great deal of benefit to using them even when they are misused. But we still do not have the overall usage rate up to what we think is necessary or achievable.

TRUCK SAFETY

Mr. COUGHLIN. As you know, the Department of Transportation is proposing large increases both in the number of Federal truck inspectors and in the size of truck safety state grant program. A recent GAO report of the state grant program found that the program:

(1) had no specific goals and objectives; (2) had no established program information needs; (3) had no program-monitoring mechanism; and (4) had no method of evaluating program performance.

What is your view of the effectiveness of the Bureau of Motor Carrier Safety and the state truck safety grant program?

Mr. BURNETT. Mr. Batten?

Mr. BATTEN. Well, I think that we have not had an opportunity to go into great detail in evaluating that program but from the things that we have seen this is certainly a viable way of extending enforcement capability which is not presently available at the Bureau of Motor Carrier Safety.

I think that we would have to agree that the program certainly has to have uniform direction and support so that it's applied equally throughout the states.

Mr. COUGHLIN. What major recommendations have you made to BMCS in the past two or three years and how responsive have they been?

Mr. SWEEDLER. During the last few years, Congressman, we have made recommendations dealing with fatigue of drivers and driver performance. We have also looked at tailgating and brake adjustment, how they deal with wet pavement. We have looked at duty time for drivers, we have seen abuses in that area. We have made some recommendations dealing with hazardous materials routing, with suspension inspections. We have also made some recommendations on identifying the actual carriers that use the interstate system and we have also made some recommendations dealing with auditing the enforcement action.

Generally, the response has been very good. The status on most of these recommendations are in either the closed acceptable action or open acceptable action. They have been quite responsive to these recommendations.

Mr. BURNETT. I would say, however, Congressman, that we have not asked Motor Carrier Safety for a whole lot because we know that they are not capable of delivering a whole lot, given their very small size in relation to the size of the trucking industry in the United States.

DISCONNECTION OF FRONT BRAKES

Mr. COUGHLIN. It was recently reported on a local television news program that 50 percent of all truckers have disconnected their front brakes even though NHTSA studies reportedly show that trucks stop quicker and under more control with front brakes. Last weekend a news article estimated the percentage to be 30 percent of the nation's 500,000 long-haul drivers. What have your accident investigations indicated with regard to the lack of front brakes and the extent to which this is a safety problem?

Mr. BATTEN. I do not know that our investigations have identified the front brake especially as a problem. We have identified that the improper slack adjustment of brakes are actually backing the brakes off where they cannot even contact the drive have been a problem.

And this seems to be something that we are finding in our accident investigations. I do not know that we could pinpoint it down to the front brake problem.

Mr. COUGHLIN. This has been going on for some time. Have there been any recommendations to BMCS or NHTSA on the issue?

Mr. KISSINGER. Well, we have one report sending recommendations that it would actually go to the NHTSA to require automatic slack adjustors on trucks, just like we have on automobiles so that you would not have a problem—I mean you can still back them off if you wanted to do that, but at least it would solve the problem of maintenance.

NATIONAL DRIVERS LICENSE

Mr. COUGHLIN. Do you support the legislation recently introduced in the Senate creating a national drivers license for interstate truck drivers?

[The information follows:]

The Safety Board has taken the position that all truck drivers should be licensed under a classified licensing system. With such a system, licenses are classified by vehicle type, and license applicants are required to demonstrate proficiency in the type of vehicle specified in the license being sought. Without such a system, a person could take a road test in a small sedan and then be licensed to drive vehicles as large and unwieldy as a tractor-semitrailer.

The Board has also said that drivers transporting hazardous materials should be subject to special licensing requirements. And the Board has called for efforts to prevent a truck driver from obtaining multiple licenses as a means of concealing a history of unsafe driving.

A national truck driver license could be a means to help achieve each of those objectives. The Safety Board therefore favors such a proposal. The legislation recently introduced in the Senate calls for creation of a national license, but the details of such a system remain to be worked out. The Safety Board's upcoming study on truck driver licensing and training will offer some recommendations on how to develop that system.

Mr. COUGHLIN. Did not the Board look into this six or seven years ago? If so, has any follow-up work been done?

[The information follows:]

For many years, the Safety Board has been a vocal advocate of the "one-license/one-record concept," which consists of a variety of measures to combat multiple licensing. In 1978 and 1980, the Board issued recommendations in support of that concept. Also in 1980, the Board issued a report on the detection and control of unsafe interstate commercial drivers. Many of the Board's findings concerning the problem of multiple licensing were derived from that research. The report also examined shortcomings of the National Driver Register and suggested ways to help alleviate them.

In 1983, the Board issued recommendations for the States to require drivers transporting hazardous materials to meet the qualifications of a special license or license endorsement.

Each of these issues will be addressed further in the upcoming report on truck driver qualifications, which will also examine problems such as the absence in some States of a classified licensing system.

CLASSIFICATION OF HAZARDOUS MATERIALS

Mr. COUGHLIN. Last year, you stated that you were not particularly satisfied with the Department's proposed rule regarding the classification of hazardous materials, and your justifications this year state that the final rule issued last October failed to address adequately almost all of the safety issues raised by the Safety Board.

In what ways do you feel DOT's final rule was deficient?

Mr. BURNETT. Mr. Batten.

Mr. BATTEN. Yes, thank you.

The particular rule that you are talking about deals with the identification of materials that pose toxic threats. The problems that we found is that the criteria used in developing this rule has no real scientific basis to back up the quantity limitations or the testing requirements that they have established.

This was pointed out to them on our response to the notice of proposed rulemaking. Also, for materials which are found, even under this criteria, to be poisonous or toxic by inhalation, those that are presently established, the containers are presently established by rule, there have been no changes made. They have indicated that they would take this up in another rulemaking which is in progress. I think that is docket HM-181. That particular docket is over two years old now and from the standpoint of compliance those materials which do not have specific containers established for their transportation, there will be an improvement in that those materials will have to be carried in what they call a Poison A container. So that will be a much stronger better crash-worthy container.

We have some reservations though, because there is an exemption process that has been established within this rule, which if a person desires, can write to the Department of Transportation asking not to be held to the rule and without public comment, or opportunity for public comment, such authority can be granted.

Mr. COUGHLIN. To what extent does the Department's rule address hazardous materials such as methyl isocyanate, the chemical which caused the death of 2,000 people in Bhopal, India?

Mr. BURNETT. Methyl isocyanate is one of the materials that does not have a specific container established for its transportation so that it will have to be carried in a Poison A container. And there are others that might be just as bad that are not also, so that it would not be cured by just addressing methyl isocyanate. It is going to require addressing systematically the whole classification system.

Mr. BATTEN. I think that one of the things that we pointed out to them is that there are many class B poisons which far exceed their criteria for class B. And, from our view, possibly ought to be considered as class A poisons but there is no criteria for determining what a class A poison is, consequently, that is an ad hoc decision on a case-by-case basis.

We think that there ought to be an interrelationship between the classifications so that one can define how bad does a class B poison have to be before we are ready to consider it a class A poison?

Mr. BURNETT. In other words, you do not get to be a class A poison until you have already gassed some people. That is a very tragic way of identifying which ones are the really bad actors.

ASSESSMENT OF RSPA

Mr. COUGHLIN. The Secretary's Safety Task Force recently issued a report on the RSPA's hazardous materials program, in which they found many problems with it. What is your general assessment of RSPA's effectiveness in regulating hazardous materials and what areas do you think need to be improved the most?

Mr. BATTEN. Well, I have reviewed that particular report and like the Task Force that studied this issue back in 1978, that particular report identifies many of the same problems which still have not been corrected.

It does get into some of the concerns of the National Academy of Science study and also some of the concerns of the Safety Board, but I am afraid that study does not go far enough to completely assess the need for changes within RSPA.

RAILROAD TANK CARS

Mr. COUGHLIN. What is the status of the Federal Railroad Administration and Materials Transportation Bureau rulemaking regarding crash protection for railroad tank cars used to transport hazardous materials, and what is the Board's position on the adequacy of this rule?

Mr. BATTEN. This has got a long history and I guess the easiest way to sum that up is that for a majority of the tank cars, the Safety Board has made recommendations over the years and have found that the regulations had been put into effect to require shelf couplers on all hazardous materials tank cars. That would have become effective during this past year.

There are some exceptions to that which means that all cars may not yet have those shelf couplers. Many of the cars, the 105, 112, and 114 category, and some 111 tank cars that transport flammable gases, are provided with head shields and insulation. However, the Board still remains concerned that there are many products transported without these protections and we have, in the last month or so, made a recommendation to the Department of Transportation that we believe that tank cars wherein the DOT emergency response guides require an evacuation distance of one-half mile, cars transporting those materials should have the head shield protection.

We have not yet received a response from DOT on this.

ALCOHOL AND DRUGS—RAILROAD

Mr. COUGHLIN. With respect to FRA's rule on the control of alcohol and drug abuse in railroad operations, you state in your justification that the critical test of the success of the rule will be the degree of application by the rail industry and enforcement by the FRA. Based on your past experience with the rail industry and FRA, are you skeptical about the application by industry or the enforcement by FRA?

Mr. BURNETT. We are very pleased that the rule has finally gone into effect. It was one that when we started working on it we were told that it could never and would never happen. And of course, the rule is being challenged in court and so far, it has been sustained, but it still is on appeal to the court of appeals and still there is some question about whether or not, even though it is now in effect, it will be ultimately sustained.

I think the Federal Railroad Administration is committed to the rule and I think, probably the rail carriers, themselves, like it although there are probably provisions of it that they would just as soon not have. I think that we will have to continue to be vigilant to be sure that it is carried into effect. But it certainly is a breath of fresh air at this point.

Mr. COUGHLIN. The Secretary said her task force gave the FRA safety program very high marks, generally. Do you agree with the task force?

Mr. BURNETT. Generally I think the Safety Task Force's first evaluation of the FAA was a very frank and forthcoming effort. And I am not sure that those evaluations that have taken place after that have been as valuable as was the initial one.

Mr. COUGHLIN. You stated that the Secretary's Task Force on RSPA did not go far enough in identifying areas which need correction. Can we assume that you believe that there are more problems than identified?

Mr. **Batten**. I think that is a proper conclusion. The Safety Board has made considerable recommendations over the years for change which we have not seen come about. Some of those are not addressed in that task force report.

RECREATIONAL BOATING SAFETY

Mr. **Coughlin**. What have your investigations shown to be the most serious problems regarding commercial and recreational boating safety, and what does the Board believe should be done to alleviate these problems?

Mr. **Burnett**. Mr. Sweedler.

Mr. **Sweedler**. One of the major problems that we discovered in the recreational boating area was the abuse of alcohol. This had been a problem that had been drastically underreported and most people did not really believe that this was a problem looking at the Coast Guard data.

But after a number of states did some very specific studies, they found that anywhere from 50 to 60 or even 70 percent of the fatal recreational boating accidents involved alcohol, and, based on these findings, the Board recommended that the states pass laws that would allow the boating police to enforce alcohol abuse laws on the waterways—and also to create educational programs.

And the Coast Guard and the states and private industry have really jumped on the bandwagon on this, and it has been quite pleasing to us to see the response because, as I mentioned, most people did not realize that this is really a problem.

Mr. **Burnett**. Thirteen states have passed laws already in response to our recommendations and there are about 23 others that may have them under consideration in this legislative session.

NTSB AUTHORIZATION

Mr. **Coughlin**. We sure need them. Does your fiscal year 1987 appropriation require the enactment of any authorizing legislation and, if so, what is the status of that?

Mr. **Burnett**. Mr. Kissinger.

Mr. **Kissinger**. Yes, it does. We will be submitting authorizing language in about a month or two.

Mr. **Coughlin**. Are you considering any modifications to your authorization in view of the staffing reductions required under Gramm-Rudman-Hollings?

Mr. **Kissinger**. Yes, we are. One of the things that we are considering is requesting authority whereby we could collect tuition from people who attend our accident investigation school out in the Transportation Safety Institute and then offset our overhead fees that we now pay to the Transportation Safety Institute.

And there are a couple of other things that we are taking a look at to see if we can save money.

We will be happy to provide that as soon as we get that out.

AVIATION INVESTIGATIONS

Mr. **Coughlin**. Are you looking at the aviation question that you were talking about?

Mr. **Kissinger**. The school?

Mr. **Coughlin**. Your ability to conduct accident investigations.

Mr. **Burnett**. I think that is certainly something that we will have to consider as to whether or not we would want to request authority to have more flexibility in what aviation accidents we investigate. We do not do that with any relish because we believe that all aviation accidents need to be investigated at the federal level but if we do not have the manpower to investigate them it would be a mistake to try to do things that we obviously cannot do.

Mr. **Coughlin**. Thank you, Mr. Chairman, that completes the general questions.

Mr. **Burnett**. Mr. Chairman, can we take a five minute recess?

Mr. **Lehman**. Certainly.

First, Mr. Conte has some questions for the record.

AVIATION SAFETY

Mr. **Conte**. It is no secret that this has been one of the worst years in aviation from an accident standpoint. Has this been a coincidence or anomaly, or are there systemic, underlying factors that have brought about this experience?

[The information follows:]

Our overall assessment has been that there are no obvious trends identifiable based on our accident investigation experiences and statistics to date. In spite of the increased numbers of major airline accidents and fatalities (record high) worldwide, the Board has not identified an overall decrease in safety in commercial aviation. The high pilot turnover and turnover of airline management personnel at commuter airlines is a concern. Moreover, the adequacy of FAA oversight of all airlines—(established, emerging and rapidly growing airlines) continues to be a focus of our concern. The reduced FAA inspector workforce, the adequacy of inspector training, and their ability to set priorities of work tasks—certification of new carriers, airmen, and aircraft, versus active surveillance—are of concern to the Board because of the indirect influence on the compliance of airlines with regulations and safe practices while under economic pressures.

AVIATION DEREGULATION

Mr. **Conte**. One of the common charges is that deregulation is to blame for these aviation accidents. Can you comment on this issue?

[The information follows:]

Based solely on statistical evidence, we cannot conclude that there has been a decrease in safety or increase in accidents as a result of deregulation. From 1979 through 1984, accident rates were in steady decline. Then accident totals and rates increased significantly in 1985. Investigation of a 1985 crash in Reno, Nevada of one "deregulation carrier" revealed clearly deficient training, and a number of maintenance and operational inadequacies were disclosed, although they were not found to be factors in the accident.

Nevertheless, we believe that there can be economic deregulation without derogation of safety provided the Federal Aviation Administration [FAA] is vigilant in the enforcement of its regulations. Our safety recommendations over the past 15 years reflect a continuing concern that the FAA must maintain and even heighten this vigilance if the nation's enviable aviation safety record is to continue to improve.

AIR TRAFFIC CONTROL

Mr. **Conte**. Another charge in regard to air traffic accidents is that it all goes back to the air controllers strike, and the current shortage of fully qualified controllers.

Have you analyzed the accident data since the strike to determine what portion of aviation accidents have been related to the air traffic control system?

Can you comment on the current safety of that system?

[The information follows:]

The Safety Board does not view the number of accidents as a very realistic measurement of the level of safety of the air traffic control [ATC] system. The number of ATC-related accidents are very few, and represent a relatively low percentage of all accidents. For this reason, we monitor the number of incidents, operational errors, pilot deviations and near midair collisions that are related to the operation of the ATC system. We monitor these on a selective basis, attempting to investigate only those which we believe are most serious.

In answer to the second part of your question, we essentially agree with the GAO report that, based on accidents alone, the ATC system would appear to be functioning safely, but we are concerned that other indicators show that the system could be at or approaching a saturation point and lower inherent safety.

NATIONAL AIRPORT

Mr. CONTE. Have you had an opportunity to review the recent "helicopter across the flight path" incident at National Airport?

Do you have any preliminary conclusions?

[The information follows:]

Although the Safety Board's report of this investigation is not yet complete, the Board did issue several safety recommendations to the Federal Aviation Administration regarding this case. I have enclosed the Board's recommendation letter for your information.

National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: January 15, 1986

In reply refer to: A-86-7 through -12

Honorable Donald D. Engen
Administrator
Federal Aviation Administration
Washington, D.C. 20591

At 1722 eastern daylight time on September 24, 1985, the captain of an Eastern Airlines Boeing 727 (B-727) rejected a takeoff on runway 36 at Washington National Airport (DCA) when he observed a Bell 206-L1 helicopter depart the north helicopter pad in a direction that would cross the B-727's projected takeoff path. The B-727 came to rest on the grass overrun off the end of runway 36, approximately 130 feet from the Potomac River. There was no damage to the aircraft or injuries to the passengers or crew during the rejected takeoff.

The National Transportation Safety Board's preliminary investigation of this incident disclosed that the B-727 was cleared for takeoff by the tower local controller while, about the same time, the Bell 206 was cleared for takeoff by another controller who was staffing the helicopter control position. The Bell 206 pilot, who had access to a Special Military Helicopter VFR Route Chart, had requested a departure via "Route 1 to Greenbelt."

The Bell 206 pilot interpreted the controller's subsequent takeoff clearance as authorization to proceed to the east by the most direct route to intersect "Route 1 to Greenbelt." The flightpath for this route crosses runway 36. During his takeoff, the pilot observed the Eastern B-727 on takeoff roll, and he also maneuvered to avoid crossing runway 36. He subsequently returned to the north helicopter pad without damage to the helicopter or injury to persons on board.

In a postincident interview, the helicopter controller stated that she normally would direct a pilot requesting this departure to proceed northwest to join Route 1 at the Memorial Bridge and that she thought she had issued these instructions to the Bell 206. A helicopter flying from the north helicopter pad to the northwest would not interfere or pass over airplanes departing runway 36. The recorded tower communication, however, showed that the controller transmitted the winds, altimeter, and takeoff clearance information without amplifying departure instructions. The helicopter controller stated that she had not coordinated the Bell 206 departure with the local controller because she expected the helicopter to depart northwest, causing no traffic conflict. Further, she stated that even without specific departure clearance instructions, she would have expected the departure helicopter to remain clear of runway 36. The tower cab supervisor, however, stated that he would assume that the helicopter would cross runway 36 during a "Route 1 to Greenbelt" departure unless given specific instructions to the contrary. The controller who worked ground control during the incident stated that although he would have given distinct departure instructions to the helicopter pilot, he would not have expected the helicopter to cross an active runway even without instruction.

The "Route 1 to Greenbelt" departure is not a standard routing published for use by civilian helicopter operators. The routing is, however, depicted on the Special Military Helicopter VFR Route Chart published by the U.S. Department of Defense (DOD). This DOD route chart is intended for use by military helicopters. However, DCA has letters of agreement with local helicopter users concerning procedures and operation to and from the airport and through the Washington terminal control area (TCA). These letters of agreement are with the local police, military, Federal Aviation Administration (FAA), and some civilian helicopter operators. They establish responsibilities and describe procedures for helicopter operations under the provisions of Special Visual Flight Rules clearances and for general operations within the Washington TCA. They also describe the use of various routes and altitudes published on the DOD Special Military Helicopter VFR Route Chart. Helicopter operators with letters of agreement with DCA are given copies of the Special Military Helicopter VFR Route Chart. Transient helicopter operators are not assumed to possess this chart, although some, including the helicopter pilot involved in this incident, have obtained copies.

Although the helicopter traffic arriving, departing, or overflying DCA represents only a small percentage of the total daily operational count, 1/ the circumstances of this incident exemplify safety issues regarding the general operation of helicopters at busy airports. Additionally, the investigation of the incident has prompted some specific concerns regarding the administration of the controller training program at the DCA facility.

The Safety Board found that at the time of the incident, all standard control tower positions were staffed with qualified personnel. Before the strike of the Professional Air Traffic Controllers Organization on August 3, 1981, the average number of controllers scheduled for work during a 1500-2300 shift at DCA ranged from 20 to 25. On September 24, 1985, there were 23 air traffic controllers scheduled to work the 1500-2300 shift during which the incident occurred. Two controllers scheduled to work were granted 8 hours of sick leave. One controller was approved for 8 hours of annual leave. Also, one controller worked from 1500-1900 and took 4 hours annual leave from 1900-2300, and one controller worked from 1800-2300 and took 3 hours annual leave from 1500-1800. In summary, at the time of the incident (1722) there were 19 controllers on duty including 10 full performance controllers (3 of whom were supervisors), 4 controllers certified through departure radar 2/, 3 certified through local control, 1 certified through ground control, and 1 controller certified at flight data and clearance delivery positions. Thus, of the 19 controllers on duty, only 2 were not qualified to work all positions in the tower cab. At the time of the incident, 3 controllers were on an authorized break from duty—all 3 were certified to work all tower cab positions.

1/ The traffic count for a busy day at DCA during June 1985 recorded 1,251 fixed-wing departures and landings as compared to 55 helicopter departures and landings. In addition to the 55 helicopter departures and landings there were 118 (81 military and 37 civil) helicopter "over flights" that transited the terminal area and were under tower control.

2/ The normal progression of training and certification (by position) at DCA tower is: flight data, clearance delivery, ground control, assistant local control, and local control. Controllers are trained for certification on radar positions only after qualifying for all tower positions. The normal progression of training and certification for radar positions is departure radar and then arrival radar.

At DCA, in addition to the supervisor positions, with the maximum number of positions staffed there are 6 control positions in the tower and 8 control positions in the Terminal Radar Approach Control Facility (TRACON). This maximum number is only filled during peak activity. At other times, positions are combined. At the time of the incident, 13 positions were staffed (the LC position was staffed by 2 controllers: a developmental controller and the supervisor administering on-the-job training) and two of the arrival radar positions in the TRACON were combined. Normally, at DCA, two supervisors are on duty in the TRACON and one in the tower cab. At the time of the incident, one of the TRACON supervisors was staffing an arrival radar position.

The local control position at DCA is responsible for the control of both fixed-wing and helicopter traffic during normal traffic activity. However, during peak traffic periods, the helicopter control position is activated and staffed by another certified local controller to reduce the workload of the local controller. At the time of the incident, the helicopter control position, with specific responsibilities for helicopter operations, was staffed by a developmental controller who was certified through the departure radar position. The tower cab supervisor was responsible for local control while he administered on-the-job-training (OJT) to a developmental controller working the LC position. The supervisor did not designate a controller-in-charge even though sufficient staff were available to assist in the tower.

The safety issue raised when a regular first-line supervisor is working a control position or is absent from his duties has been the subject of previous Safety Board recommendations addressed to the FAA. On October 14, 1981, during its special investigation of the air traffic control system in the United States, the Safety Board issued Safety Recommendation A-81-147, which recommended that the FAA:

> Require that, at any time that a first-line supervisor is to work a control position in addition to performing supervisory duties, a procedure is in place at the facility through which qualified personnel are immediately available for assistance or coordination.

On May 12, 1983, as a result of its "Special Investigation Report--Followup Study of the United States Air Traffic Control System," the Safety Board issued Safety Recommendation A-83-38, which recommended that the FAA:

> Institute air traffic control directives and procedures to require, when the assigned first-line supervisor is occupied working a control position, that there is appropriate and adequate direct supervision to ensure the detection and reporting of all controller errors or deviations, the detection and monitoring of fatigue and/or stress, and the control of each controller's workload.

On November 9, 1984, as a result of its investigation of an air traffic control operational error near Philipsburg, Pennsylvania, on May 9, 1984, in which four air carrier airplanes and one corporate jet were involved in four specific conflictions because the standard air traffic control separation criteria were compromised, the Safety Board issued Safety Recommendation A-84-117, which recommended that the FAA:

> Issue a General Notice (GENOT) directing the management of all Air Traffic Control facilities to schedule auxiliary activity of supervisors so as to minimize interruption of their controller supervision function during periods of high traffic demands.

The FAA's initial response to these recommendations stated that it would make supervisors continuously available during high-volume traffic situations. More recently, on April 18, 1985, the FAA responded further that it would issue a GENOT to satisfy the Safety Board's concern "that more positive action is required by the FAA to assure that first-line supervision is available to monitor controller performance at peak times." Although in this incident, the Safety Board has not determined if the absence of direct supervision in the tower cab contributed to the operational error, the circumstances of this incident indicate that the FAA has not adequately emphasized the importance of having a supervisor or designated controller-in-charge whose sole function is to monitor controller performance. The Safety Board continues to believe that a supervisor who is busy working a control position cannot effectively and safely monitor controllers.

The controller assigned to the helicopter control position was employed by the FAA as a pre-developmental controller in 1978 and was assigned to the DCA tower to receive OJT as a developmental controller in December 1979. She was certified on all tower cab positions by August 1981 when she left employment with the FAA. She rejoined the FAA in March 1983 and resumed duties as a controller in the DCA tower cab. By July 1983, she was recertified on all control positions in the tower cab but, as of September 1985, she had not achieved status as a full performance level controller because she had not qualified in the approach radar positions in the TRACON.

The Safety Board believes that the lack of consensus among controllers regarding helicopter control procedures, as well as deficiencies demonstrated by the controller in this incident--that is, the imprecise departure clearance instruction issued to the Bell 206 pilot and the lack of coordination with the local controller--illustrates shortcomings in the DCA controller training program as well as lack of standard procedures. The Safety Board believes that classroom training and OJT at DCA did not consistently give adequate attention to the requirements to coordinate and issue specific departure or arrival clearances regarding helicopter operations. These observed deficiencies may be due to inadequate subject matter content in the current training program, to weakness in the evaluation standards for controller performance, or to problems associated with the implementation and administration of the training and evaluation program for controllers. The Safety Board believes that similar problems in controller training and evaluation programs may exist at other major airports. Recommendations to address these problems are expected to follow the completion of a Safety Board special investigation of runway incursions.

The investigation of this incident also disclosed apparent irregularities in the administration of controller training which the Safety Board believes need to be addressed without delay. According to FAA Order 3120.4F, tower facility managers are required to conduct "tape-talks" and over-the-shoulder (OTS) evaluations 3/ to evaluate controller proficiency at least semiannually. The requirements and monitoring of these proficiency and training sessions are controlled by the FAA's Technical Appraisal Program. Before the incident of September 24, 1985, the helicopter controller's last tape-talk evaluation occurred while she was at the local controller position, and it was conducted from 1249 to 1327 eastern standard time on January 24, 1985, 8 months before the incident. The tape-talk was supervised by the helicopter controller's regular first-line supervisor, and the only written comments on the evaluations were "no deficiencies." The helicopter controller's training and proficiency record indicated that since February 1984, all OTS evaluations were conducted at the local control positions.

3/ "Tape-talks" are sessions between a controller and first-line supervisor in which the supervisor critiques a period of controlling activities recorded on audio tape. Over-the-shoulder evaluations are conducted during actual controlling activities.

The most recent OTS evaluation was given on January 25, 1985, 8 months before the incident. Information supplied in the training record did not indicate whether helicopter control was combined with the local control position at the time of the last OTS evaluation.

FAA Order 3120.4F states that only ATC specialists who have completed an FAA-approved training instructor course shall administer OJT. The helicopter controller in this incident completed FAA OJT Instructor Course 05561, a 16-hour course taught at the DCA facility on April 8, 1983, less than a month after having been reinstated at the facility on March 14, 1983.

The order also states that each OJT instructor must be evaluated as to training performance at least semiannually by a designee of the facility manager. According to the helicopter controller's training and proficiency record, she was last given an OTS evaluation of OJT by her first-line supervisor on February 29, 1984, 1 year 7 months before the incident. But according to the position sign-on logs (FAA Form 7230-10) for September 24, 1985, the helicopter controller had given OJT to a developmental controller on the local control position earlier during the day of the incident. The Safety Board is concerned that this controller was qualified by the FAA to give OJT even though neither her proficiency in OJT ability nor in the position being trained had been evaluated in the previous 6 months. As a result of these findings, the Safety Board believes that the FAA must review the Technical Appraisal Program administered at DCA and correct noted deficiencies regarding both the substance and administration of the program.

Another concern illustrated in this incident involves the lack of procedures for helicopter operation in and out of DCA and possibly other major airports throughout the National Airspace System. With regard to DCA, no standardized aeronautical charts have been published for civilian helicopter pilots to use in making visual approaches or departures. The only chart available showing helicopter low-level routes through the DCA area was the Special Military Helicopter VFR Route Chart published by the DOD. This chart was designed for military helicopter pilots to use around the Washington, D. C., metropolitan area, including operations to and from the Pentagon Army Heliport. It showed specific arrival and departure route descriptions for Pentagon operations, but it did not depict similar information for DCA. The special military routes were not defined by navigation aids, but used familiar landmarks such as rivers, bridges, and major highways. Although the chart had limited distribution and was intended for military use, through letters of agreement with the DCA tower it also was made available to some civilian helicopter operators. The tower controllers were reportedly made familiar with the helicopter routes on this military chart, and with the letters of agreement with operators, in the controller training program. However, the controllers should have been made aware that only those operators authorized should be issued clearances for routing depicted on the military chart and that only those operators could be expected to be familiar with that routing.

Although the Bell 206 pilot was not officially authorized by letter of agreement to use the military "Route 1 to Greenbelt," he and other operators apparently obtained and used the chart. The pilot confirmed that he referred to it when requesting his departure clearance. Since the helicopter controller had not been trained to question the pilot's authorization to use, or his familiarity with, the "Route 1 to Greenbelt" routing, she issued the departure clearance as requested.

As a result of the September 24 incident, on September 26, 1985, the manager of the DCA tower published a memorandum to all personnel regarding helicopter operations, which stated that effective immediately, only military helicopters and helicopters with letters of agreement with the DCA tower were to use the Special Military Helicopter VFR Route Chart, and that for all other helicopters, "specific progressive clearances delineating routes and altitudes necessary to separate them from other traffic will be issued." The Safety Board believes this procedure change was a necessary immediate improvement, but it does not completely solve the problem at the DCA Tower. The Safety Board believes that the FAA, in conjunction with civilian and military helicopter users, should design and publish a special helicopter route map for use in the Washington metropolitan area. This map should include standardized arrival/departure route descriptions for operations at DCA. Standardized routing would reduce the helicopter controller workload and minimize the potential for misunderstood and ambiguous communications.

Although this letter addresses the Washington National incident in particular, the Safety Board believes that the problems involved have implications on a national scale. During the Rotorcraft Master Plan Workshop of the National Airspace Review (NAR), the Helicopter Association International (HAI) requested that standard published helicopter route maps and procedures be made available to all helicopter pilots. The Safety Board endorses the HAI concerns, and believes that the FAA should study the feasibility of establishing published procedures and routes for helicopter visual flight rules operations at major airports throughout the National Airspace System.

The Safety Board is aware that the DCA tower has taken measures to improve standard procedures with respect to helicopter control. However, the Safety Board is concerned that these measures are not sufficient to prevent another such incident from occurring. Therefore, the National Transportation Safety Board recommends that the Federal Aviation Administration:

> Establish standardized departure/arrival routes for helicopter traffic arriving and departing Washington National Airport. (Class II, Priority Action) (A-86-7)
>
> Design, publish, and require the use of a chart depicting visual flight rules helicopter routes for civilian and military helicopter operations throughout the Washington, D.C. metropolitan area, which would include the standardized departure and arrival routes to and from Washington National Airport. The chart should include graphic and narrative descriptions of the selected routes. (Class II, Priority Action) (A-86-8)
>
> Study the feasibility of establishing standard visual flight rules helicopter routes and arrival and departure procedures at major airports throughout the National Airspace System. (Class III, Longer-Term Action) (A-86-9)
>
> Require the inclusion of visual flight rules helicopter control procedures, in using standard routes, in both classroom and on-the-job training of local controllers. (Class II, Priority Action) (A-86-10)
>
> Examine the administration of the Technical Appraisal Program at Washington National Airport tower to confirm compliance with all directives pertaining to Air Traffic Control Specialist Proficiency Requirements. (Class II, Priority Action) (A-86-11)

> Require that on-the-job training at specified control positions be given only by controllers who are qualified instructors and who have current (in the last 6 months) performance evaluations of on-the-job training ability and current (in the last 6 months) performance evaluations at the specified control position. (Class II, Priority Action) (A-86-17)

In addition, the Safety board reiterates and urges expeditious implementation of Safety Recommendation A-83-38 issued to the FAA on May 12, 1983.

BURNETT, Chairman, GOLDMAN, Vice Chairman, and LAUBER, Member, concurred in these recommendations.

Jim Burnett

By: Jim Burnett
Chairman

Mr. CONTE. Could you comment on the overall safety of National Airport, which has been a matter of some controversy ever since the Air Florida crash?

[The information follows:]

We believe that National Airport can be as safe as any other, as long as safe and sound operating practices are followed by all concerned, including ATC controllers, pilots, and airport personnel. If the operating limitations imposed on operations at National Airport are adhered to, safety should not be compromised.

SAFETY STUDIES

Mr. CONTE. Much of the Board's work is, of course, responsive—as accidents occur. Could you outline for us what areas the Board has been involved in most recently in terms of more generic safety issue reviews or studies, and what is anticipated in that regard for the next year or two?

[The information follows:]

The Board recently completed work on a 3-part study of general aviation crashworthiness. For more than 25 years, general aviation crashworthiness development has been delayed because an acceptable description of a "survivable" accident did not exist. Impact angles, impact speeds, acceleration loads experienced during such an accident, and potential injury prevention had to be defined. The 3-part study recently completed by the Board defines and quantifies the "survivable" accident, establishing a basis for engineering design requirements. The injury prevention potential is quantified in these reports, which define the net worth of requiring future regulatory changes.

Other recent studies of special safety issues in aviation concerned the lack of regulation of the ultralight industry, ways to improve procedures for informing air passengers about emergency exits and equipment, and the need for improved protection of air passengers at risk of overwater emergencies.

A number of recent studies in the highway mode have addressed aspects of the drunk driving problem: a detailed examination of deficiencies in the handling of "repeat offender" drunk drivers, and a report on the most effective methods for educating young people about alcohol and drug abuse. Another report covered the results of a 2-day symposium held by the Board on ways to promote child safety seat usage and reduce the widespread misuse of these important life-saving devices. Ongoing studies in the highway area address the question of occupant restraints on schoolbuses, the real-world performance of seat belts, training and licensing of truck drivers, and operational truck safety problems.

In the rail area, the Board is working to complete a study on the special problems of hazards at rail/highway grade crossings, particularly at crossings used by passenger or commuter trains. The Board is also preparing recommendations to help prevent alcohol and drug abuse by rail rapid transit operators.

During the remainder of this year, the Board anticipates beginning work on a study to address the lack of safety procedures and equipment on large fishing vessels.

In the area of hazardous materials, the Board recently completed a study of hazardous materials handling in rail yards.

FISHING VESSEL SAFETY

Mr. CONTE. The question of safety in the commercial fishing industry, especially along the northern Pacific coast and Alaska, has been in the news recently.

Requests have been made by families of crew members who have been involved in accidents for tighter regulatory controls over the commercial fishing industry.

Do you see a need for increased safety regulation in this area?

[The information follows:]

Yes, a recent study for the U.S. Coast Guard revealed that, between 1970 and 1982, an average of 185 U.S. fishing vessels were lost each year, resulting in an annual loss of 43 lives. Fishing vessel accidents account for a high percentage of major marine accidents (estimated between 35 and 45 percent, depending on the year), and should be a prime subject for efforts to improve safety.

Fishing vessels are owned, for the most part, by many small, independent companies, with no national fishing industry organization and only a few regional associations. Many of these vessels are old; they are not well maintained and not well-equipped with emergency and lifesaving devices. Commercial fishing vessels are not required to meet design or construction standards, nor are they inspected by the Coast Guard either during or after construction. Fishing vessels must comply only with the minimal regulations regarding navigation lights, life saving devices, and fire extinguishers. The operators of commercial fishing vessels are generally not required to be licensed by the Coast Guard.

Certainly, recent accidents such as the sinking of the U.S. fishing vessels AMAZING GRACE, ATLANTIC MIST, and others confirm the need for a safety study in this area to pull together evidence of the need for safety improvements in this industry.

The Coast Guard has undertaken a fishing vessel safety initiative because of the high loss rate of fishing vessels and crewmembers. The CG intends to reduce the number of fishing vessel casualties by not less than ten percent by 1991 through voluntary vessel standards and safety guides for training fishing vessel crews. However, neither the training nor the vessel standards will be mandatory. Currently, several fishing vessel safety centers sponsored by NOAA's National Marine Fisheries Service have attempted to institute fishing vessel safety courses, but attendance by fishermen/women has not been overwhelming. Since there is little demand for such courses, there are no major centers in the private sector providing safety training.

GRAMM-RUDMAN-HOLLINGS

Mr. CONTE. Please outline how the Gramm-Rudman-Hollings reductions that took effect March 1st have affected the Board's operations. How is the Board managing those reductions?

[The information follows:]

As a result of the initial Gramm-Rudman-Hollings reductions in FY 1986, the Safety Board suffered a reduction of $959,000 or approximately four percent of our appropriations. This resulted in the following nonpersonnel cost reductions with the following impacts:

Equipment—the major management initiative to increase efficiency through computerizing Board activities (and thereby be in a better position to absorb resource reductions) will be stalled and the continuing effort to maintain the Board's laboratories in the forefront of technology will be jeopardized.

Supplies and Materials—stocks will be depleted, which obviously can be done only on a short-term, one-time basis.

More significantly, we will be required to reduce our employment from 338 to 324.

BUDGET REDUCTION

Mr. CONTE. The President's budget proposes a reduction in Board funds and activities in 1987. In your view, is this appropriate?

Can you provide some detail of what activities will be most seriously affected?

[The information follows:]

We certainly support the need to reduce overall government expenditures in order to reduce the deficit. In addition, we recognize that the President's budget reflects many difficult and painful decisions about the relative priorities among a wide variety of governmental programs. We are not in a position, therefore, to judge the appropriateness of those decisions. With respect to the effect on the Safety Board's programs, however, if we are able to achieve across-the-board program reductions by imposing a selective hiring freeze (as is our plan), all workload accomplishments will be reduced by approximately nine to ten percent. The impact of such reductions will fall most heavily on our accident investigations (and supporting technology) programs and on the aviation mode because of the large proportion of NTSB positions allocated to those areas.

Mr. **Lehman**. We will take a five minute recess.
[Recess.]

JUSTIFICATIONS

STANDARD LEVEL USER CHARGES

Mr. **Coughlin**. On page iv, while you are proposing to reduce your funding for personnel compensation in fiscal year 1987, you are requesting an increase of over $500,000, or more than 40 percent, for standard level user charges (SLUC).

Why are these charges increasing by such a large amount, particularly since it is projected to decrease by nearly 10 percent from fiscal year 1985 to fiscal year 1987?

[The information follows:]

The total amount of office space will be reduced to correspond with our anticipatcent of ten times the projected inflation rate, from FY 1986 to 1987. This results from a law which requires GSA to charge occupying agencies rates that approximate those charged to commercial tenants for equivalent space and related services. The rates for FY 1987 reflect a 15 percent reduction from the appraised rates. The full appraised rates will, according to GSA, be charged beginning in FY 1988.

OFFICE SPACE

Mr. **Coughlin**. Have you reduced, or do you plan to reduce your total amount of office space to correspond with your anticipated employment reduction?

[The information follows:].

The total amount of office space will be reduced to correspond with our anticipated employment reductions. However, we cannot reduce the space until the employees are actually off the rolls and then it would be necessary to perform space renovations because we cannot return randomly located blocks of space to GSA. Therefore, these space reductions will not be fully realized until some time in fiscal year 1988 or 1989.

Mr. **Coughlin**. It is my understanding that the GSA standard or goal is 135 square feet per person.

What is your current average and what are you assuming with respect to your fiscal year 1987 budget request?

[The information follows:]

Based on the Board's latest space plan, the average square foot of office space per person is below the GSA-recommended level of 135. However, the budget does not reflect a reduction in our estimate of space costs because our total space requirements (office and other) are not estimated to change significantly until our planned reduction in staff is fully realized and an appropriate reassessment and reallocation of space is implemented sometime in fiscal year 1988 or 1989.

COMMUNICATION AND UTILITY COSTS

Mr. **Coughlin**. Your communications and utility costs are projected to increase by $89,000 in fiscal year 1987 after increases of $141,000 in fiscal year 1986 and $225,000 in fiscal year 1985.

That is a total 3-year increase of $455,000 or more than 50 percent.

What is the reason for this seemingly large increase?

[The information follows:]

The reason for the seemingly large increase in communications and utility costs between 1985 and 1987 is twofold. First, historically, the annual increase in costs for telephone service has far exceeded inflation (by 184 percent between fiscal years 1982 and 1983, by 26 percent between 1983 and 1984, and by 12 percent between 1984 and 1985). These increases are expected to continue. Second, anticipated additional telecommunication costs are expected to be incurred beginning in FY 1987 as more Safety Board field offices begin transmitting electronically their accident data, accident report drafts and other information to the headquarters computer facility.

OTHER SERVICES

Mr. **Coughlin**. Would you provide for the record a breakdown of your $1,438,000 request for "other services" and indicate how it compares with fiscal years 1985 and 1986?

[The information follows:]

OTHER SERVICES

[Dollars in thousands]

Object class description	FY 1985 Actual	Diff.	FY 1986 Estimate	Diff.	FY 1987 Estimate
Accident investigation	259	36	295	−5	290
ADP	214	2	216	−16	200
Training tuition/fees	185	93	278	−78	200
Working capital fund	223	10	233	−4	229
Building and equip maintenance	115	5	120	−2	118
Court reporting	213	9	222	−4	218
Miscellaneous	178	8	186	−3	183
Total, other services	1,387	163	1,550	−112	1,438

EQUIPMENT COSTS

Mr. **Coughlin**. You are also requesting an increase of $302,000 for equipment. What does this increase represent?

[The information follows:]

Because of the Gramm-Rudman-Hollings sequestration of funds sustained in FY 1986, a substantial (50 percent) short-term reduction in the amount available for equipment purchases was necessary. However, a partial restoration of these funds ($302,000) in FY 1987 is essential in order to avoid seriously jeopardizing our laboratory's technical credibility and the improvements in the Board's overall productivity, through automation, or computerized enhancements.

DOT SUPPORT SERVICES

Mr. **Coughlin**. Would you update for the record the table on DOT support services which was included on page 82 of last year's hearing record?

[The information follows:]

DOT SUPPORT SERVICES

[Dollars in thousands]

	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
DOT working capital fund:			
Library services	58	61	60
Visuals and graphics	66	69	68
Parking and facilities management	31	32	31
Warehouse management	17	18	18
Headquarters building security	48	50	49

DOT SUPPORT SERVICES—Continued

[Dollars in thousands]

	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
Imprest fund services	3	3	3
Subtotal	223	233	229
Other:			
FAA/HHS health services	12	13	12
FAA payroll services	43	45	42
FAA personnel management information system	21	22	21
Subtotal	76	80	75
Total, DOT support services	299	313	304

ACCIDENT REPORTS AND RECOMMENDATIONS

Mr. COUGHLIN. Would you also update for the record the table included on page 83 of last year's hearing record showing accident reports and recommendations?

[The information follows:]

ACCIDENT INVESTIGATIONS AND REPORTS

	FY 1984	FY 1985	GRH [1] 1986
Major accident reports (adopted):			
Aviation	13	10	11
Highway	9	6	6
Marine	9	12	11
Pipeline/hazardous materials	5	6	6
Railroad	4	11	11
Total major accident reports	40	45	45
Field investigations (completed):			
Aviation (NTSB)	3,380	2,877	2,830
Aviation (FAA)	125	248	290
Subtotal aviation	3,505	3,125	3,120
Highway	236	235	235
Railroad	173	176	176
Total field investigations	3,914	3,536	3,531
Foreign accident investigations	51	45	45
Recommendations (issued):			
Aviation	130	80	92
Highway	92	46	37
Marine	74	122	50
Pipeline/hazardous materials	54	28	12
Railroad	46	97	48
Intermodal	9	20	6
Total recommendations	405	393	[2] 245

[1] Estimate.
[2] Actual as of March.

AIRCRAFT FIRE SAFETY

Mr. COUGHLIN. In past years we have discussed aircraft fire safety.

What is the status of FAA's rulemaking in this area and what is your opinion of them?

Mr. **Kampschror.** The Safety Board made eleven cabin fire safety recommendations. The FAA, on October 26, 1984, issued rules requiring that fire-blocking seat cushions be retrofitted in transport category airplanes certificated after January 1, 1958, within three years of the effective date of the final rule.

They also issued a new rule requiring that floor proximity emergency escape path lighting be installed in transport category airplanes within two years.

Both those rules were issued in October 1984. They also have issued a Notice of Proposed Rulemaking in 1984 for new fire test methods to be applied for the containment of fire in cargo compartments.

And on April 15th, 1985, they issued an additional Notice of Proposed Rulemaking which proposed new flammability emission standards for cabin and interior materials, and this NPRM, or the proposed final rule on this matter was submitted to the Secretary of Transportation on December the 23rd, 1985 for Executive Branch coordination.

Mr. **Coughlin.** Are you satisfied with these?

Mr. **Kampschror.** Generally, yes, the Safety Board is satisfied.

FAA'S IMPLIED CONSENT TESTING SYSTEM

Mr. **Coughlin.** On page 3 you state that the Board questioned the effectiveness of FAA's proposed "implied consent" testing system which defers the enforcement actions to state and local police.

Who do you believe should be responsible for enforcing this testing, and why?

[The information follows:]

First, in order for state or local police to arrest and then request a suspected pilot to provide a chemical test, they need the authority to do so. The Federal Aviation Administration [FAA] has not delegated any such authority, therefore state "Flying While Intoxicated" [FWI] and implied consent laws are required. To date ten states do not have FWI laws, only eight states specify a blood alcohol limit (only two at the 0.04 percent FAA limit), and only four states have implied consent laws for pilots. To compound matters, the FAA's procedures to review the air certificate of a suspected impaired pilot are only triggered when the pilot or state/local official notifies the FAA. Since pilots are not likely to report being arrested or refusing a test, the FAA must rely on state and local police to notify them of an offense. While the FAA has promised to "work with the states" in this area, we do not see evidence of any formal or well-developed notification system.

The Safety Board believes that it is incumbent upon the FAA to address each of these areas before it can assert that a competent program to protect the public from alcohol and other drug impaired pilots exists.

We believe that there should be a shared responsibility between the FAA and the states in enforcing federal and state alcohol/aviation laws.

Because the FAA seems unwilling to assume the responsibility for testing pilots suspected of (alcohol or drug) impairment even when and where they might have the personnel to do so, we are left with an enforcement system that falls almost completely on the States to operate. Such a system can work but several components not currently present be required.

RUNWAY INCURSIONS

Mr. **Coughlin.** On pages 3 through 5, you mention a number of runway incursion accidents and incidents.

In general, what were the causes of those runway incursions, what major recommendations have you made, and what actions has the FAA taken on your recommendations?

[The information follows:]

Our findings thus far suggest that most of these occurrences result from miscommunication, misunderstood clearances or key personnel simply forgetting the clearances or the location of aircraft that present a hazard to one another. Generally, human error on the part of pilots and controllers underlie the causes of these potentially catastrophic incidents.

On December 19, 1983 a Japan Airline's Boeing 747-200 collided with a pickup truck which was crossing the runway at the Anchorage International Airport in Alaska. The airplane incurred substantial damage, but the three crewmembers were uninjured. The pickup truck was demolished, and the driver was seriously injured.

On December 20, 1983 an Ozark Airlines DC-9-31 collided with a snow sweeper as it was clearing the runway at the Sioux Falls, South Dakota, airport. The aircraft received substantial damage, but the crew of 5 and the 81 passengers were able to evacuate the airplane via the forward escape slides without reported injury. The snow sweeper was demolished, and its operator was killed.

On December 21, 1983 as a result of the Anchorage and Sioux Falls accidents, the Federal Aviation Administration's (FAA) Air Traffic Service issued a General Notice to all air traffic facilities providing airport advisory service. The notice directed facility air traffic managers to conduct mandatory briefings of assigned personnel regarding proper coordination and application of procedures relative to landing aircraft when there are vehicle operations in progress on runways.

On March 8, 1984 a Piedmont Airlines Boeing 737-200 with 22 people on board, executed an emergency go-around at the Greater Cincinnati International Airport in Kentucky. After touching down, the flightcrew saw amber flashing lights on eight pieces of snow removal equipment on the runway about 1,000 feet ahead of the airplane. The airplane lifted off the runway and missed the snow removal equipment by an estimated ten feet.

As a result of its investigation of these accidents, the Safety Board recommended that the FAA develop a mechanical/aural/visual (or combination thereof) alerting device and require its use by local and ground controllers to coordinate their activities when a vehicle has been cleared to operate on an active duty runway for an extended period such as in snow removal operations.

In a recent response, the FAA replied that a task group consisting of FAA field, regional and headquarters representatives met during January 1985 to discuss issues which were relevant to the Safety Board's recommendation. They include development of an FAA order stipulating specific actions required by air traffic control personnel to reduce runway transgressions, which may include devices producing aural and/or visual cues for the controllers, and tightening the control of surface traffic on runways.

On March 31, 1985 two Northwest Airlines DC-10s were involved in a near collision on Runway 29L at Minneapolis-St. Paul International Airport. The captain of one of the aircraft stated that his airplane flew directly over the top of the other, and he estimated the distance between the airplanes was between 50 to 75 feet. There was no damage to either airplane, and there were no injuries to the 501 people aboard the two aircraft.

Preliminary information indicates that one aircraft was cleared for takeoff by the local controller at about the same time that the other aircraft was cleared by the ground controller to cross the active runway. The concurrent clearances apparently were issued as a result of incomplete and/or misunderstood verbal coordination between the local and ground controllers.

As a result of its investigation of this incident, the Safety Board recommended that the FAA immediately brief all traffic controllers in the importance of complete and accurate coordination before allowing airplanes to taxi across an active runway, and to develop and implement specific procedures, standards, and responsibilities for use during coordination between controllers regarding requests and approval to taxi airplanes across an active runway. In partial response to these recommendations, the FAA issued a General Notice on April 29, 1985 directing facility managers to ensure that a thorough briefing is conducted with all operational personnel concerning the importance of complete and accurate coordination between local and ground controllers prior to taxiing airplanes across an active runway.

In addition, as a result of the Safety Board's investigation of this and other runway incursion incidents, the FAA has informed the Board that the agency is taking positive action to investigate and identify the underlying factors common to these operational errors. This action is being taken with the goal to reduce the likelihood of recurrence of these runway incursion incidents.

ULTRALIGHTS

Mr. **Coughlin**. On page 8, what has FAA's response been to your recommendation that ultralights be included under 14 CFR Part 91—general operating and flight rules, which requires minimum standards for pilot training and certification, vehicle registration, and vehicle airworthiness certification?

[The information follows:]

In a letter dated May 14, 1985, FAA stated its belief that ". . . an equivalent level of safety could not be maintained by permitting ultralights to operate under the less restrictive operating and flight rules of 14 CFR Part 91. However, the desired level of safety could be maintained by continuing to require ultralights to operate under the more restrictive operating rules of 14 CFR Part 103. Concurrently, we propose to amend the regulations to the extent necessary to require certification of ultralight airmen, and issuance of airworthiness and registration certificates for the vehicle."

AIRLINE PASSENGER SAFETY EDUCATION

Mr. **Coughlin**. You indicate that you conducted a special study on airline passenger safety education.

To what extent did you find that passengers actually pay attention to the pre-flight safety information provided by the airlines? Is the answer more this year?

Mr. **Kampschror**. Unfortunately, no. We did not do a quantitative evaluation but we did send out passenger questionnaires, and surprisingly, not many passengers responded to those questionnaires in the negative, in that they did not pay much attention to the passenger briefings.

Also, observations on some of the flights that we rode, indicated that many passengers did not pay any attention to passenger briefing.

From this we concluded that a substantial number of passengers aboard any given flight do not pay any attention to the safety briefings.

Mr. **Coughlin**. What has the FAA and airline response been to your recommendation regarding improving the understandability of safety information, publishing definitive guidance on the development of safety cards, improving flight attendant training, and improving the training of the FAA inspectors who are responsible for approving air carrier safety briefings?

Mr. **Kampschror**. Congressman, the FAA has until the 19th of March to respond to our safety recommendations in that respect, and they have not yet responded, although we do have indications that there is a lot of interest throughout the airline industry and in the FAA itself.

ALCOHOL—HIGHWAYS

Mr. **Coughlin**. With regard to alcohol and highways, on page 15 you refer to your safety study which documented flaws in the enforcement, judicial, and alcohol treatment systems.

What flaws did you find in these systems, and what recommendations did you make to correct these flaws?

[The information follows:]

The major conclusions and recommendations of this study, "Deficiencies in Enforcement, Judicial, and Treatment Programs Related to Repeat Offender Drunk Drivers, NTSB/SS-84/04" were:

CONCLUSIONS

- Law enforcement officers properly trained in the application of the "Horizontal Gaze Nystagmus" test can estimate a driver's BAC at roadside within 0.02 percent of chemical test readings; increased training in the test and increased use of it in the field could therefore increase the probability of detecting lower BAC levels and decrease the probability that intoxicated drivers would be mistakenly released as not intoxicated (as can happen with some of the field tests used now).

- Preliminary breath test devices can reveal a driver's BAC to within 0.01 percent; their use enables an officer in the field to determine, easily and quickly, whether a person is under the influence of alcohol in marginal cases and whether an arrest is justified.

- The distortion of DWI offenders' records produced by plea bargaining could be prevented by requiring that all dismissals of DWI charges or amendment of a DWI charge to a lesser charge be recorded, or by restricting plea bargaining in DWI cases so that an alcohol-related charge cannot be reduced to a nonalcohol-related charge.

- Improvements are needed in the education of judges in relation to alcohol issues and effective disposition of DWI cases.

- Although it is by no means fully documented, it is clear that there is a substantial alcohol abuse problem among juveniles; if a juvenile's abusive drinking habits are not detected and appropriate treatment is not provided, he or she may well become a repeat DWI offender. There is a need for more treatment programs oriented to juvenile alcohol abusers, especially in-patient programs at reasonable cost.

- Early identification of a person's drinking problem appears to increase the chance that treatment can be effective in reducing the problem. Pre-sentence investigation of a DWI defendant's drinking habits and history is important in assuring that appropriate sanctions are imposed.

RECOMMENDATIONS

To the State Governors:

- Encourage the use, by all traffic law enforcement agencies in your State, of preliminary breath test devices and the NHTSA-recommended three-part field sobriety test, including the horizontal gaze nystagmus test. (Class II, Priority Action) (H-84-77)

- Take steps to preclude reduction of an alcohol-related charge to a nonalcohol-related charge and to require in all cases that the defendant's driving record reflect the original charge. (Class II, Priority Action) (H-84-80)

- Encourage and support initial and recurrent training on alcohol, problem drinking, and drunk driving case adjudication for all judges hearing DWI cases. (Class II, Priority Action) (H-84-81)

- Require that appropriate alcohol problem evaluations of persons charged with alcohol-related traffic offenses be conducted and made available to judges hearing these cases. (Class II, Priority Action) (H-84-85)

- Take action to increase the availability and quality of alcohol treatment services designed specifically for juvenile alcohol abuses, especially to provide services at low cost to the user. (Class II, Priority Action) (H-84-86)

Several other recommendations were made to Governors, the NHTSA, the Veterans Administration and individual organizations.

DRUG AND ALCOHOL ABUSE—HIGHWAYS

Mr. COUGHLIN. What do you believe the Board's mandated role is with respect to drug and alcohol abuse on the highways?

Mr. BURNETT. Congressman, we have conducted several safety studies in relation to alcohol and drugs on the highways, and produced, independent of those studies, several recommendation letters. The age 21 issue; we have addressed the repeat offender; we have also addressed alcohol education.

We have a forthcoming study that is in draft form right now, and is almost ready to submit to the Board, on how we should be educating students early on, to avoid or understand the pitfalls of alcohol involvement.

We think that doing something about alcohol abuse on the highways is one of the two areas in which major reductions can be made in fatalities, the other one being the use of restraints, and I think the Board has a major responsibility in both areas. It certainly has been one of our major emphasis areas for the last four years.

Mr. COUGHLIN. Approximately what percent of your agency's total effort is expended on alcohol abuse on the highways, in terms of funds and manpower, including special studies, accident reports, public hearings, speaking engagements, et cetera, and what level of effort is anticipated in this area over the next two years, i.e., fiscal years 1986 and 1987?

[The information follows:]

In terms of manpower and funding, the Safety Board has a full-time alcohol program coordinator whose primary responsibility has been in the alcohol and highway safety area. He also works on alcohol problems in other modes of transportation. He is supported by our state and local liaison specialist on a part time basis, who assists Board members, senior management staff and the alcohol program coordinator in following up Board alcohol recommendations to the appropriate recipients. Through this effort (which includes conducting safety studies, accident investigations, and public hearings; presenting testimony, speeches and technical papers; providing technical assistance to State and local governments, citizens groups, etc.), a range of Safety Board personnel from Board members to the above-mentioned staff can and have been involved.

We anticipate the level of staff involvement in this area to remain consistent over the next several years.

ROLES OF NHTSA AND BMCS

Mr. COUGHLIN. Are there other government or private agencies which have or could have, a prominent role in this area, which would alleviate some of the necessary effort of the Safety Board in this area?

[The information follows:]

There are other agencies that have responsibility in the alcohol and highway safety area—principally the National Highway Traffic Safety Administration (NHTSA) and the Bureau of Motor Carrier Safety (BMCS), both in the Department of Transportation. The respective roles of the Safety Board and these other agencies are somewhat different. Through our oversight function, the Safety Board seeks to monitor as well as encourage appropriate highway safety programs in these agencies. We do not, of course, provide financial or substantial technical assistance to the states and localities. Rather, whether the result of a safety study or a particular accident investigation, the Safety Board strives to encourage the appropriate federal, state, or local government or private agency to adopt the remedial safety recommendations we formulate.

For example, as a result of our recent study into the inadequacy of state programs to measure alcohol-involvement in fatal highway crashes, the Safety Board issued a series of recommendations to the states and the NHTSA. We called upon the states to require alcohol testing of all drivers involved in fatal highway crashes and to ensure that the results of these tests are reported to the appropriate state and federal agencies. The Board concurrently recommended that the NHTSA undertake a more aggressive program to assist the states in obtaining improved alcohol testing and reporting.

Absent the changes we suggest, the Safety Board believes that many states will continue to be unable to accurately define the extent of their drunk driving problem and, concomitantly, to evaluate the impact of the substantial resources being applied to solve it.

ALCOHOL—MARINE

Mr. COUGHLIN. On page 18, you refer to State prohibitions against operating a boat while intoxicated.

To what extent are States enforcing these laws?

[The information follows:]

Information provided by States to the National Transportation Safety Board indicates that those States that they met the intent of the Safety Board's recommendations, i.e., have defined a blood alcohol level and to allow a chemical test if a recreational boat operator is suspected of being intoxicated are enforcing their respective State law.

At least one State (Maryland) documented its boating while intoxicated laws effect during the 1983 boating season. According to Maryland officials an immediate drop in boating accidents and casualties occurred. The reductions from the 1982 to the 1983 boating season were as follows:

Total accidnts declined 10 percent.

Casualties declined 26.6 percent.

Property damage declined 39 percent.

They report similar reduction between the 1983, 1984 and 1985 boating seasons. Other States have indicated a heightened awareness of the problem and reductions but have not yet provided concrete statistics on the effect of their enforcement programs.

PIPELINE SAFETY

Mr. COUGHLIN. On page 23, what has RSPA's response been to your recommendation that they establish a program to determine whether the problem of chemically induced ABS plastic pipe failure is nationwide, publish and distribute ABS plastic pipe failure data to gas operators, and develop recommended methods for eliminating such failures?

Mr. BATTEN. Congressman, we have met with Dr. Aullin who is responsible for the RSPA pipeline safety program and they have developed a program wherein they will be talking with the manufacturers as well as the major pipeline companies concerning this problem.

Right now it would appear, from the initial data, that the problem is not nationwide, but it is more localized to certain Western States.

This program is being pursued and when we get final information, of course we will assess that.

MANAGEMENT ACCOMPLISHMENTS

Mr. COUGHLIN. Have you been able to achieve your projected 15 percent productivity improvement in your office of administrative law judges as a result of your new procedures and organizational changes?

Mr. Kissinger. Yes, we have. So far this year, actually, the number of hearings held has gone up 34 percent, and the number of cases closed 23 percent.

Mr. Coughlin. On page 26, you state that you have established a review committee to decide on the merits of safety proposals.

Why did you find it necessary to establish this additional level of review?

[The information follows:]

The review committee to decide on the merits of safety proposals is not actually an additional level of review. Rather, it is a formalization for greater efficiency of the review process which was previously followed. The process of reviewing safety proposals and, if found to have merit, developing them into formal safety recommendations involves all of the Board's technical bureaus: Accident Investigation, Technology, Field Operations, and Safety Programs. It is the heart of the Safety Board's safety improvement activities. Safety proposals may emanate from any of these bureaus—accident investigators in the Bureaus of Accident Investigation or Field Operations; specialists preparing safety studies in the Bureaus of Safety Programs; or technical experts providing assistance on either accident investigations or safety studies in the Bureau of Technology. Each proposal, however, must be coordinated with all four bureaus to assure that there is an adequate factual basis for making a recommendation, that such a recommendation has not been made previously, that the intended recipient is not already taking action, etc. We find that by using a committee structure rather than referring such proposals to the various bureaus seriatum, the process is faster, differences of opinion are resolved on the spot, and, when necessary, the difficult decision to reject a safety proposal is not postponed. This last situation—the rejection of a safety proposal—often involves difficult management decisions which go to the question of whether a safety improvement is practical, reasonable, realistic, apparently cost-beneficial, etc. A management decision on this type of problem can often be more effectively made through a collegial process.

ACCIDENT REPORTS

Mr. Coughlin. You refer (p. 27) to your effort to reduce the time required to complete investigative reports. What goals have you established in this area?

Mr. Kissinger. Well, we have had a longstanding goal of trying to get reports out within six months. Unfortunately, we are not making very good progress in that because of the reduced resources.

In fact our average last year for major reports was up to about a year, which is a substantial increase from the previous year.

ACCIDENT INVESTIGATION SCHOOL

Mr. Coughlin. Last year it was indicated that during fiscal year 1986 you planned to train 40 NTSB personnel and 40 non-Safety Board employees at your accident investigation school.

How many different classes does this involve and how many weeks do these classes typically last?

Mr. Kampschror. The aviation school that refers to was a two-week course that we have been trying to teach three times a year.

Last year, we actually trained 43, last fiscal year, 43 Safety Board employees and 15 other people. Our projection for this year is 33 Safety Board employees and 27 people from the outside.

Mr. Coughlin. What do you teach at this school?

Mr. Kampschror. Well, maybe Mr. Banks would like to expand on that. It is basic accident investigation.

Mr. Banks. We also bring the techniques of accident investigation up to the state of the art, in both general aviation and air carrier.

We also looked very closely into the helicopter accident investigation because of the increasing number of helicopters being operated within the system. Witness interviews, human performance, and composite materials, to include also the interpretation of autopsy and toxicology reports.

ACCIDENT INVESTIGATION SCHOOL

Mr. Coughlin. Would you indicate for the record technical qualifications and investigative experience of the individual who is in charge of this school?

[The information follows:]

The position of program manager for the Board's accident investigation school in Oklahoma City is vacant. Below, however, are the duties and qualifications of that position as outlined in the position announcement.

Duties: Plans, develops and offers resident and non-resident instructional activities in multimodal accident investigation procedures and techniques, investigation analysis, and other related subjects for the NTSB, i.e., special project seminars. Develops and distributes instructional materials for use in project seminars. Develops and distributes instructional materials for use in field activity training as requested by the NTSB and other participating organizations. Establishes, coordinates and implements procedures for program management, including planning, budgeting and monitoring, and ensures that appropriate personnel and organizations are kept fully informed of program activities. In addition, incumbent will have responsibility for all technical training within the NTSB, including courses held at private institutions and/or in-house training not located in Oklahoma City, Oklahoma, etc.

Qualifications: Applicants must have three years of general experience and three years of specialized experience. General experience is any kind of experience which provided a good basic or general knowledge of the principles of organization, management and administration. Specialized experience is operating adminstrative or managerial experience in a type of work or a combination of functions directly related to this position.

OPERATING COSTS OF ACCIDENT INVESTIGATION SCHOOL

Mr. Coughlin. Would you also indicate for the record the estimated annual operating costs of this school and the extent to which you are reimbursed by non-NTSB employees?

[The information follows:]

The annual operating costs of the Board's accident investigation school at Oklahoma City is approximately $200,000. Although non-Board students are charged a fee for participation at the school, the Safety Board currently does not have the authority to offset the cost of the school with these funds. The monies received are deposited to the general fund at the Department of the Treasury.

SAFETY STUDIES AND RECOMMENDATIONS

Mr. Coughlin. Under future plans you refer to issuing reports and studies of the highest quality.

How do you judge the quality of your studies and recommendations?

[The information follows:]

The ultimate test of the quality of our studies and recommendations is whether they result in accomplishing the safety improvements they advocate or recommend. If our reports, studies and recommendations are timely issued (when a safety problem is of greatest public concern), contain irrefutable factual data, apply those facts logically to the safety problems found, identify reasonable solutions, and persuasively advocate the implementation of those solutions, we believe that the recipients of our recommendations will take the actions recommended and thereby effect a real-world safety improvement.

OPEN SAFETY RECOMMENDATIONS

Mr. **Coughlin**. You indicate that you intend to reduce to a manageable level your open safety recommendations.

How many open recommendations do you presently have, what actions are you taking to reduce this number, and what do you consider a manageable level?

Mr. **Sweedler**. At the present time we have 1,950 recommendations that are open. Last year we had one of our best years in closing recommendations, a 52 percent increase in the number of recommendations closed, and if we look back over the past ten years—last year was a 35 percent increase over that period. One of the things that we have done, as we mentioned in last year's hearing, is that we have been addressing recommendations to multiple addressees, like to State Governors, or the operators of the various railroad companies.

So in effect, while we have made approximately 400 recommendations, we actually addressed recommendations last year, to over 1300 recipients. So the workload has tripled.

But our main goal is to keep current in dealing with these people, so that nothing drags on for more than three or four months, so we know exactly where, or we are right up to speed in dealing with the recipients.

Mr. **Coughlin**. Is 1,950 a manageable number?

Mr. **Sweedler**. We would like to knock that down but—

Mr. **Coughlin**. What is a manageable number?

Mr. **Burnett**. Oh, it is clearly not a manageable number. I will step in here. It is clearly not a manageable number, and that has been the reason we want to reduce it, but the problem is, we either have to try to close them out successfully, or just walk away from them. We have some important recommendations in that, and we certainly have not been able to make the progress in reducing the number that we would like to have, but that is just one of those situations where a backlog was allowed to develop.

So when you get down to trying to reduce it, it is very difficult to do.

Mr. **Coughlin**. Who gives you the biggest problem?

Mr. **Burnett**. Well, how often we get those questions and those percentage runs, I will let Mr. Sweedler give them to you.

Mr. **Sweedler**. I have some percentages. The agency that has the lowest rate of acceptance of our recommendations is the Federal Railroad Administration with about a 70 percent acceptance rate, and it goes up from there. The NHTSA is 72.

Mr. **Coughlin**. Can you provide that for the record, please?

Mr. **Sweedler**. Yes. We have the full list.

[The information follows:]

The Safety Board considers a safety recommendation to have been implemented when enough evidence/information has been accumulated to classify the recommendation as either closed—acceptable action or closed—acceptable alternate action. With this as a definition, the data shown below was developed. Using this data, we have calculated the following percentages:

	CAA + CAAA/Total Closed		Percentage acceptance
	Percentage since 1967	Percentage since 1980	
DOT (Office of Secretary)	77	61	89.68
FAA	78	79	79.75
FHWA	80	86	85.27
FRA	63	64	70.04
MARAD	100		93.33
NHTSA	77	70	72.19
RSPA	67	54	78.43
UMTA	83	100	90.91
USCG	69	64	76.92
Total	75	76	78.92

The first two columns compare those recommendations closed as acceptable or acceptable alternate to the total of all recommendations closed. The third column lists an acceptance percentage which includes acceptance of open recommendations as well as closed. It is arrived at through the formula:

$$\text{Acceptance percentage} = \frac{OAA+OAAA+CAA+CAAA}{\text{Total } (OAR+ORR+CNLA+CS)}.$$

PARTIES TO INVESTIGATIONS

Mr. **Coughlin**. You refer to enhanced cooperation with parties to your investigations. How would you characterize the cooperation you receive from the FAA, Coast Guard, and other DOT operating administrations?

Mr. **Burnett**. Well, I think we get good cooperation from the FAA, of course, which has always participated in our investigations and participated very actively.

And under Admiral Engen, they have made a commitment to doing more in the area of accident investigation. This is one of the reasons they have set up some new administrative teams to do that, and they have hired people away from us to fill the positions.

We have had, I think, some increasing problems with the FAA in dealing with them on air traffic control matters, in which the FAA spokesman who participates in our investigation often cannot speak for the FAA.

And I do not mean that he is being deprived of that authority from the top, but the regional air traffic control people will not necessarily respond and cooperate as the FAA representative on our investigation would desire, although they are never quite free to say that.

And we have had a lot of footdragging on interviewing of witnesses. So we have had some difficulty that we have not experienced before with the FAA in doing air traffic control type investigations.

MANAGEMENT IMPROVEMENTS

Mr. **Coughlin**. What management improvements have you implemented during the past year to more effectively utilize your resources?

Mr. **Kissinger**. Well, three areas come to mind. One is training. We are very proud of the development and progress we have made with our accident investigation school. Also we put a lot more effort this last year in training people that we would consider prospective managers—people that could move into management positions at the agency.

Secondly, we are very pleased with the progress in the computer and computer graphic work, both from a management standpoint, and we have made extensive use of tools like spreadsheets in order to help manage the monies we have, and the resources we have.

And on the accident investigation and technology end of the house, we have been very happy with the kind of substantial improvements we have been able to make in the technology of investigating accidents.

This morning we witnessed one product of that kind of work. Finally, as we have also mentioned, we have done several things in the ALJ program to streamline the administrative support. We have inaugurated a new policy of trying to hold hearings in hub airports, and so forth that have led to the kinds of improvements that we talked about.

IN SEARCH OF EXCELLENCE

Mr. COUGHLIN. What prompted you to establish your "In Search of Excellence" program, and what do you intend to do with that?

Mr. KISSINGER. Well, I think really, what prompted it, was sort of a grass roots feeling among the agency. We have a lot of new managers there because of some turnover, and the "In Search of Excellence" is probably one of the most popular management doctrines, because of the book by that name. A lot of people read the book and were interested in it and came to us, came to senior management, and said they would like to do something like that at the agency.

It turns out that OPM has an improved program that costs about $13,000, where they come in and set up a program that might be described almost as a self-help program.

It is a series of workshops; they get you started and then you work. And we think anything that will help improve our management and keep morale high, at a time when we have all these other things in transition, would be very helpful.

Mr. COUGHLIN. If you can elaborate on that for the record, please.

[The information follows:]

The "In Search of Excellence" or "Toward Excellence" Program is based on an analysis of some successful corporations such as IBM, 3M, McDonald's, Hewlett-Packard and Delta Airlines, which was undertaken to determine the concepts that made them successful. The program is designed to make organizations more effective, efficient, and productive through increased employee involvement and recognition. It is the Board's goal to implement these previously identified, successful concepts within our organization. The Office of Personnel Management has also endorsed the program. We have talked extensively with other organizations within the Federal government who have implemented it (portions of the IRS, ERA and Defense Department) and they were unanimous in their favorable comments. We plan to implement the program incrementally, beginning with the top executives of the Board and systematically involve all levels. We hope this program will help make us a more effective organization, and will allow us to continue our effectiveness even amid declining resources.

COST OF IN SEARCH OF EXCELLENCE PROGRAM

Mr. COUGHLIN. What is the estimated cost of this program for fiscal years 1986 and 1987?

[The information follows:]

The estimated cost of the Board's proposed "In Search of Excellence" program is $13,000. It is expected that most of these costs will be incurred in fiscal year 1986.

SAFETY STUDIES

Mr. COUGHLIN. Before we turn to Safety Studies, if you will excuse me, I will go over and vote and be right back.

[Brief recess for a vote.]

Mr. COUGHLIN. Thank you very much for your indulgence. It was two votes. Turning to your safety studies, at the time of our hearings last year you had just completed your safety study of the automated track inspection program, and had recommended that the Federal Railroad Administration:

(1) Develop and implement a national track inspection program which requires railroads to use automated track geometry measurement systems in an on-going systematic manner; and

(2) Increase the use of automated track geometry inspections in its evaluations of railroad track systems and integrate the results of these inspections into regional enforcement programs.

To what extent has the Federal Railroad Administration implemented your recomendations?

[The information follows:]

As a result of the Board's review of railroad accidents caused by track failure under dynamic loads and involving track geometry parameters such as gauge, profile, alignment, and crosslevel not being maintained to the minimum standards set by the Federal Railroad Administration (FRA), the Safety Board issued the following Safety Recommendations to the Federal Railroad Administration on March 6, 1985:

R-85-10.—Develop and implement a national track inspection program which requires companies to use automated track geometry measurement systems in an ongoing, systematic program of inspection of all routes emphasizing initially routes regularly travelled by trains carrying either hazardous materials or passengers.

R-85-11.—Increase the use of automated track geometry inspections in its evaluations of railroad track systems and integrate the results of automated track geometry inspections into regional surveillance and enforcement programs, emphasizing initially routes regularly travelled by trains carrying either hazardous materials or passengers.

The FRA responded on August 12, 1985, and indicated that it would not take further action regarding the use of automated track geometry inspection cars as outlined in the Board's recommendation. The FRA's decision was based on its belief that the current Federal Track Safety Standards are adequate and that a number of railroads presently own or lease automated track geometry inspection cars.

The Safety Board has stated its concern regarding the adequacy of the current track standards on numerous occasions in correspondence regarding previous Safety Recommendations and in its reports on accident investigations. Since the Board believes that the existing regulations do not provide the appropriate emphasis on track inspection, we believe that additional measures are needed as outlined in the Board's recommendations.

The Safety Board is aware that automated track geometry vehicles are operated by some of the Class 1 railroads and/or railroad systems and are used from time to time in maintenance programs to monitor the immediate condition of track. However, most of the railroads do not use their cars in a regular and systematic program to obtain data for evaluating track deterioration trends, which is the thrust of the Board's recommendations. The Board noted that the FRA intended to survey 24,500 miles in 1985 with its one vehicle. We did not consider the survey of 24,500 miles in 1985 a substantial increase, particularly in view of the number of miles of track that were inspected in each of the calendar years 1980 and 1981, which are 66,364 and 70,199 respectively. Moreover, based on the industry's recent level of use of its vehicles, the Safety Board is convinced that the combined efforts of the FRA and the industry will not assure adequate coverage of the Nation's Class 3 and above track.

AVIATION OVER-WATER EMERGENCIES

Mr. COUGHLIN. You also indicated last year that you planned to complete a safety study on over-water emergencies.

What were the major conclusions and recommendations of this study?

[The information follows:]

Federal Aviation Administration (FAA) emergency procedures and FAA-approved equipment are designed on the assumption that air carrier water contact accidents are primarily ditchings, a water accident characterized by at least some preparation time and relatively little aircraft damage. The chances of the passengers and crew surviving a planned ditching into waters of moderate temperature are probably good. However, nearly all of the air carrier water contact accidents between 1959 and 1984 have been inadvertent, with no preparation time, substantial aircraft damage, and a high chance of occupant injury. Often the cabin floods quickly, followed by sinking of the aircraft within minutes. Typically, these accidents do not occur on "extended overwater flight" (the type of operation to which most FAA survival regulations currently apply) but close to an airport, during approach or departure. At least 179 fully certificated airports in the United States are located within five miles of a significant body of water. The Board recommended the FAA require both life preservers and flotation seat cushions on all air carrier flights, and asked for improvements in life preserver design, packaging, accessibility and ease of donning. Other recommendations deal with emergency evacuation slides, liferafts, flotation devices for infants, crew post-crash survival training, and water rescue plans at airports near water.

On December 10, 1985 the FAA reported that, in response to seven of the Board's recommendations concerning life preservers, the FAA has proposed a new Technical Standard Order (TSO) which would require a quick release girt and handholds on emergency evacuation slides. Additionally, the FAA is engaged in a broad scale review of all aspects of cabin safety which includes hands-on "wet" training drills for crewmembers, and a feasibility study on providing specific performance standards for infant flotation devices.

SCHOOL BUS SAFETY

Mr. COUGHLIN. On page 34, you refer to your study of school bus safety. Last year you stated that you have had to back away from your previous support for mandatory seat belt laws for school buses.

Some school systems are installing seat belts at least on a trial basis, and others are considering the installation of seat belts in school buses.

What is your current position on this issue?

[The information follows:]

In September 1983, the Board agreed that there was insufficient evidence to warrant extending the mandatory seatbelt requirement to large poststandard schoolbuses. The Board did, however, support decisions by local school boards to install lapbelts for passengers. We based this position on the best evidence available to us at that time.

Since then, crash tests of lapbelted passengers on schoolbuses have been conducted and the Safety Board has conducted a series of special accident investigations relevant to the question of seatbelts on buses. Specifically, we are looking into the performance of lapbelt systems in passenger cars and vans and the crash performance of large poststandard schoolbuses. The data we have collected in our lapbelt study has raised serious reservations about the wisdom of installing passenger lapbelts on large schoolbuses. It is possible that we may conclude that schoolbus passengers need some sort of restraint system.

FISHING VESSEL SAFETY

Mr. Coughlin. With regard to fishing vessel safety, how effective do you believe the Coast Guard's voluntary vessel standards and safety guides for training crews will be?

[The information follows:]

It is difficult to measure the effectiveness of a voluntary program since there is no practical method to determine how many vessels and crew are complying with the standards and to what degree. However, past experience with the fishing industry indicates that the U.S. Coast Guard's present voluntary vessel standards and safety guides for training crew will have little effect. In 1968 and again in 1976, the Coast Guard published recommended standards for stability tests and stability information for commercial fishing vessels, but commercial fishing vessels continue to be operated without adequate stability information. For example, the Safety Board recently has investigated stability-related accidents involving the commercial fishing vessels AMAZING GRACE, LIBERTY, SANTO ROSARIO, and the ATLANTIC MIST where no stability information has been provided to the captain. The high number of stability-related fishing vessel accidents (more than 100 in 1983) indicates that reliance on voluntary compliance with stability standards is ineffective, and the Safety Board believes that statutory requirements are necessary.

In 1973, the Coast Guard published the International Maritime Organization's Code of Safety for Fishermen and Fishing Vessels. After the 1977 international conference on safety of fishing vessels, the Coast Guard published the Torremolinas International Convention for the Safety of Fishing Vessels. However, large losses of U.S. fishing vessels with the accompanying large loss of life continue each year. Voluntary participation in the past has not been successful, and there is no reason to believe that voluntary education programs for fishermen will be any more successful in the future. The Safety Board believes that the only remedy for the high loss rate of fishing vessels and the loss of lives is a licensing program, similar to that required of operators of uninspected towing vessels, which includes a mandatory safety training program. Currently employed fishing vessel captains should be required to attend basic training courses in safety, and future captains should be required to attend and pass these courses before becoming fishing vessel captains. These courses would become available in the private sector if there was a mandatory education program. Failure by fishing vessel captains to comply with basic safety procedures should be subject to USCG investigation and penalties if necessary.

AMAZING GRACE AND ATLANTIC MIST RECOMMENDATIONS

Mr. Coughlin. How responsive has the Coast Guard been to the recommendations you made regarding recent fishing vessel accidents, such as the *Amazing Grace* and *Atlantic Mist*?

[The information follows:]

In general, the Coast Guard has responded favorably to recommendations made regarding fishing vessel accidents. We do, however, continue to disagree on the solution to two critical elements associated with the majority of these accidents: (1) the absence of stability standards for small fishing vessels, and (2) the need for mandatory examination and licensing of commercial fishing vessel captains. The Coast Guard continues to favor a voluntary approach to both of these problems. Its Fishing Vessel Task Force decided that a Voluntary Vessel Standards Program and a Safety Awareness/Education Program would be preferable to mandatory requirements, as outlined in the Safety Board's recommendations on these issues. The Board remains firmly opposed to voluntary stability standards and crew training safety guides as a solution. They have failed in the past and there is no reason to believe that they will be successful in the future. Furthermore, it will take a considerable amount of time to measure the results of the Coast Guard's voluntary program. Unfortunately, the only way to measure results is to wait for more accidents to happen over an extended time period and compare the statistics with those of the past. This is an unacceptable risk to the lives of commercial fishermen, in the opinion of the Safety Board.

RAILROAD HIGHWAY GRADE CROSSING STUDY

Mr. COUGHLIN. On page 36, what were the major conclusions and recommendations from your railroad/highway grade crossing study, which you indicate was completed last September?

[The information follows:]

The Safety Board completed its review and issued a study report of grade crossing accidents investigated in calendar years 1983 and 1984. Eighteen accidents were included in this study (seven involving Amtrak trains). The review concluded that there were several issues of interest:

Routing—The routing of motor vehicles, particularly schoolbuses and trucks carrying hazardous materials, over grade crossings that do not have active warning devices (flashing lights, gates, and/or bells) is a major safety problem at grade crossings. A number of recent accidents involving the routing of heavy trucks, trucks carrying hazardous materials, and schoolbuses over crossings with only passive warning signs have led to fatal accidents.

Driver behavior—Motor vehicle drivers often disregard warning devices, are inattentive, or take other improper actions that lead to their driving across crossings in front of trains; drivers may be influenced by their lack of understanding of train characteristics or may be inattentive to safety warnings.

Booby-trap crossings—At booby-trap crossings, which usually have passive warning devices, a reasonable and prudent motor vehicle driver has difficulty crossing safely because an obstruction limits the driver's sight distance and visibility of the train.

Audible warning systems—To avoid a collision at a booby-trap crossing, the motor vehicle driver must perceive the approach of the train audibly if visual recognition is not possible; the role of the train's audible warning system becomes particularly important in the case of high-speed trains.

Vehicle ground clearance—Motor carriers transporting heavy equipment on trucks that do not have sufficient ground clearance to clear elevated surface profiles at crossings have become lodged on tracks and struck by trains.

These issues are now being reviewed based on 75 in-depth accident investigations undertaken in 1985 and based on this review the Board plans to issue appropriate recommendations seeking safety improvements.

SAFETY STUDIES

Mr. COUGHLIN. Would you list for the record those safety studies scheduled for completion during the remainder of this calendar year?

[The information follows:]

SAFETY STUDIES SCHEDULED FOR COMPLETION BY THE END OF CY 1986

Performance of Occupant Restraints in Survivable Motor Vehicle Crashes—Lap Belts.

Performance of Occupant Restraints in Survivable Motor Vehicle Crashes—Lap/Shoulder Belts.

Schoolbus Safety.

Heavy Truck Driver Training and Licensing.

Passenger/Commuter Train Grade Crossing Accidents.

Alcohol Education Forum—Report.

Air Carrier Annual Review—1982.

General Aviation Annual Review—1983.

Air Carrier Annual Review—1983.

General Aviation Annual Review—1984.

Air Carrier Annual Review—1984.

Runway Incursions (Special Investigation).

Note.—It is likely that given budgetary constraints we will not actually complete all of these this year.

SAFETY OBJECTIVES

Mr. COUGHLIN. On pages 38 through 44, you list five safety objectives and you state that one of the criteria used in selecting these is that implementation of the solution is relatively short term.

However, this is the third year that four of these objectives (all except wind shear) have been listed in your justification.

What problems are you having in attempting to accomplish these objectives?

Mr. KISSINGER. Well, the biggest problem we are having is in the way we set our priorities. The first priority is we assign a team to accident investigation. The second priority is to issue recommendations, and then the third, sort of a catch-all, is to handle recommendation follow-up. Safety objective activities is really included in that safety recommendation follow-up.

And therefore, as we cut back in our resources, we are just not able to spend as much time devoting to safety objective and safety advocacy work.

Now with respect to the specific objectives that are listed in the budget, we would be happy to provide, you know, additional information as to specific problems we are having in those particular areas.

Mr. COUGHLIN. Do you have any specific goals for each of these objectives for fiscal years 1986 and 1987?

If so would you list them for the record?

[The information follows:]

Flight Recorders

The Safety Board has set specific goals for the safety objective to enhance the CVR and FDR requirements for both air carrier and general aviation aircraft. These goals are to move FAA to require that air carrier CVR specifications be upgraded; amend 14 CFR 121 and 127 (or their proposed equivalents) to require modern digital FDRs wired to record expanded parameter sets; issue a technical standard order (TSO) for "general aviation" recorders; require that all multiengine, turbine-powered "general aviation" aircraft, both airplanes and rotorcraft, be equipped with both a CVR and FDR.

Detection and Avoidance of the Aviation Windshear Hazard

The Safety Board will consider that the safety objective Detection and Avoidance of Windshear will be satisfied when the FAA:

1. Develops improved procedures for developing and transmitting low level windshear data to the pilots of landing and departing aircraft.

2. Initiates a program to install enhanced low level windshear alert systems.

3. In coordination with the National Weather Service and the Department of Defense, completes the development of and begins the installation of the next generation weather radar (NEXRAD) system with doppler wind measuring capability.

4. Completes the development of, establishes procedures for using, and initiates a program to install a terminal doppler radar system (or an equivalent technology system) for the real time detection and measurement of terminal area windshear hazards.

5. Develops additional standard windshear models and defines standards for pilot training programs in windshear avoidance and response to windshear encounters.

We believe that these actions are achievable and that this safety objective can be closed successfully within two calendar years.

Alcohol and Drug Use by Railroad Employees

The objectives for this program for Fiscal Year 1986 and 1987 are as follows:

- To see that the Federal Railroad Administration's (FRA) rule is fully implemented and executed by the railroads and adequately enforced by the FRA.

- To recommend in the future that the rule be amended to allow no discernible level of alcohol or illegal drug consumption to be considered safe when operating a train -- a zero point zero zero percent (0.00%) blood alcohol concentration is the only acceptable level for all transportation modes.

- Review the need for states to implement criminal penalties if civil remedies do not remove the hazards posed by intoxicated railroad employees.

All of these actions will await the final disposition of the court case on the FRA rules now under deliberation in the 9th Circuit of Northern California.

Infant and Child Passenger Protection (Motor Vehicles)

The Safety Board will continue to take steps to combat the misuse of child restraints. About half of all child safety seats currently in use are not being used properly, and thus child passengers are not being afforded the level of protection such restraints can provide.

We plan to follow-up on the Safety Recommendations we have already issued on this subject, and issue new recommendations if needed. We already have asked all states to implement specific programs to combat misuse; last year, we also asked states and the National Highway Traffic Safety Administration to collect specific accident and restraint use data to document the extent and type of misuse occurring. Without data, local programs to combat misuse lack feedback as to whether programs are successful.

The Safety Board also would like to see stronger child passenger protection laws passed in each state. We stand ready to provide information, if asked, to states considering amendments to their child passenger protection law. Law enforcement officers in some states have been reluctant to enforce existing laws because of age limitations and exclusions.

Crashworthiness of Railroad Hazardous Materials Tank Cars

Concerning our safety objective for improving the crashworthiness of railroad tank cars, the Board recently has made recommendations to the Research and Special Programs Administration (RSPA) and the Federal Railroad Administration (FRA) for extending thermal and tank head puncture protection to all tank cars transporting materials for which the Department of Transportation recommended emergency evacuation distance equals or exceeds one-half mile and to the Association of American Railroads (AAR) for expediting its bottom outlet and bottom discontinuity protection program. Further, recent Safety Board reports have focused on the need for improved control by the FRA over the tank car design and modification program presently administered by the AAR. Our goals for FY 1986 and 1987 are directed to obtaining from the FRA and the AAR commitments for the expeditious implementation of these already recommended actions. Primarily through our accident investigation activities, the Board will be assessing the effectiveness of top/bottom shelf couplers alone for providing protection against tank head punctures, for bottom outlet protection for preventing releases of hazardous materials during accident environments, and the ability of presently required metals for preventing failures.

SKID RESISTANCE

Mr. COUGHLIN. Last year it was indicated that one of your safety objectives was to encourage the Federal Highway Administration to conduct a review of all State skid resistance programs and to publish the findings of these reviews.

How successful have you been in getting the Federal Highway Administration to conduct these reviews, and to what extent has this had an impact on your stated long-range goal of significantly reducing the percent of all fatal wet pavement-caused accidents?

Mr. KAMPSCHROR. I believe, to date, the Federal Highway Administration has conducted reviews of four State programs. I cannot answer the rest of your question in that regard.

Mr. COUGHLIN. Can you respond for the record, please?

Mr. KAMPSCHROR. Yes, sir.

[The information follows:]

In January 1986, (FR 51.8 page 1390) the FHWA stated that they had reviewed 21 State skid accident reduction programs. Based on the field reviews, the FHWA concluded that States have evaluated aggregates and mixture designs commonly used and have ascertained that pavement surfaces are evaluated using standard methods of test. These evaluations have resulted in improved specifications and designs. Although the FHWA's review found that, overall, the States have effective programs, areas of weakness were identified. The FHWA concluded that there is a need for increased monitoring of State programs to identify and correct specific problem areas that may be unique to each State. The FHWA has directed its field offices to conduct reviews of all skid reduction programs.

Since January 1986, three more State programs have been reviewed and one additional State is scheduled for program review.

Recent data indicate a slight decrease in number of fatal accidents and the percentage of accidents on wet pavement to levels below those of 1982 and 1983.

FATAL ACCIDENTS ON WET PAVEMENTS

	Wet pavement fatal accidents	Total fatal accidents	Percent on wet pavements
1982	5791	38,899	14.89
1983	5732	37,971	15.10
1984	5668	39,622	14.31
1985 [1]	5140	38,915	13.21

[1] Estimated totals based on 94 percent of the data.

This change could be attributed to fluctuations in weather but some of the reduction perhaps is due to the increased budgets for resurfacing roads.

We will continue to investigate serious accidents on wet pavement and will monitor accident data and recommendation responses on the subject.

EXCESS FLOW VALVES

Mr. COUGHLIN. Another stated objective last year was to obtain a commitment from the Research and Special Programs Administration to require the installation of excess flow valves on all new and renewed high pressure gas distribution customer service lines.

How responsive has RSPA been in this area?

[The information follows:]

Both the Board and the RSPA agreed to hold in abeyance regulatory action for requiring the installation on new or reconditioned high pressure gas service lines of excess flow valves. The basis of this decision was the Gas Research Institute's (GRI) acceptance of a Board recommendation to conduct research designed to assess the benefits to public safety from the installation of these valves and to determine the performance characteristics which should be used in selecting the types of valves to use.

The GRI now has produced what it calls its final report on these valves; however, several additional research projects are in progress and the GRI has recommended the conduct of further studies it believes necessary for assessing fully the performance characteristics of presently available valves. Furthermore, Board staff's review of the final GRI report found many parts of the study with which it took exception concerning the type and quality of work performed in producing GRI's final report. These exceptions have been made to the GRI. Presently, the Board is considering what, if any, additional action should be takend in regard to this recommendation to the RSPA.

VOICE/DATA RECORDERS

Mr. **Coughlin**. On page 39, you state that you will continue to urge FAA to adopt a final rule which will require the installation of both CVR's (cockpit voice recorders) and FDR's (flight data recorders) on fixed-wing and rotary-wing aircraft operating under 14 CFR Parts 91, 125, and 135.

What has FAA's reaction been?

Mr. **Burnett**. Basically, we have achieved ICAO standards changed, which was a great victory, and we were also able to keep the United States from voting against those standards when they were passed.

So we felt like that this was going to put a whole lot of pressure on the FAA to conform to the standards themselves. However, it takes rulemaking in order to do that, and they say that they cannot justify the rulemaking under the presidential cost benefit analysis order, which of course is a rather difficult thing because it is hard to prove how a flight data recorder will necessarily produce a benefit.

We think it will, but demonstrating it in an empirical way is an almost impossible thing to do.

We continue to press them on that because we think that especially as we move into the composite materials, when it will take us a long time to learn how to analyze the wreckage, we are going to desperately need these reports.

Mr. **Coughlin**. Is cost the major reason why FAA has not previously required CVR's and FDR's on these aircraft?

If so, to what extent is this a valid concern on FAA's part?

[The information follows:]

Yes, cost is a major justification for the Federal Aviation Administration's (FAA) reluctance to require cockpit voice recorders and flight data recorders on 14 CFR Part 91, 125 and 135 aircraft.

The FAA recognizes the benefits of recordings, as evidenced by Notice of Proposed Rulemaking (NPRM) "Flight Recorders and Cockpit Voice Recorders," Docket No. 24418, which encourages the installation of approved flight recorders and by the soon-to-be-adopted Technical Standard Order (TSO-C111) "General Aviation Flight Recorders." The problem, however, comes with the cost-benefit constraints imposed by Executive Order 12291.

While the cost of improving flight recorder standards can be reasonably evaluated, the benefits cannot. The benefits of a recorder can only be measured in abstract terms; that is, how recorded information can contribute to the determination of cause and lead to the implementation of corrective action to prevent a future recurrence.

Mr. COUGHLIN. You also state that you will continue to urge FAA to adopt U.S. regulations comparable to the ICAO standards.

In what ways do FAA's regulations fall short of the ICAO standards?

Mr. KAMPSCHROR. I do not have the specifics of that, but I believe with regard to the air carrier recorders, I think the ICAO standards are much more comprehensive in that they have, I believe, eleven additional parameters to be recorded, above the FAA's stipulated 17 parameters. I am not precisely certain if my number is correct.

Mr. COUGHLIN. Put something in the record on that, please.

Mr. KAMPSCHROR. Yes, sir.

[The information follows:]

The ICAO standard currently specifies a total 32 parameters, which is 15 more than the current Federal Aviation Administration (FAA) requirement of 17. These additional parameters would enable the investigator to obtain much better appreciation for the cause of an accident and the identification of needed accident preventive measures. For example, the FAA's requirement does not include three-axis acceleration—which is essential in evaluating windshear encounters; it does not include autopilot status, ground proximity warning activation or navigational data—any of which could be key to an accident cause.

POLICY AND DIRECTION

Mr. COUGHLIN. Thank you, Mr. Chairman.

Mr. LEHMAN. Turning to policy and direction, you are requesting 37 staff years and $2,666,900 for this part of your organization.

This is four staff years below your fiscal year 1986 level prior to Gramm-Rudman, and two staff years below your adjusted fiscal year 1986 level.

To what extent will this reduction affect your activities, and transportation safety in general?

[The information follows:]

As previously indicated, these reductions represent a proportional share of the Gramm-Rudman sequestration cuts as applied to the Policy and Direction activity, and assume that we will be able by imposing a selective hiring freeze to accomplish balanced, across-the-board program reductions. In fact, as you know, a significant portion of this activity is comprised of the Board Members and their immediate staffs, and it is therefore unlikely that the magnitude of the cuts reflected in the budget for this activity can in fact be achieved. It may well be, therefore, that some of these reductions will have to be absorbed by other program elements of the Board, further adversely impacting their output. In general, however, these cuts will contribute to the reduction of all workload accomplishments of the Board approximately nine to ten percent. We believe the effect on transportation safety in general will be very detrimental.

BOARD POLICY MEETINGS

Mr. LEHMAN. You state that policy and direction are provided by the offices of the Chairman, Vice Chairman, and Board members.

How frequently does the Board meet to discuss matters of Safety Board policy?

If you do not meet, why not, and if you do meet, what policy issues were discussed at your past two or three meetings, and what new policies were established or what prior policies were modified?

Mr. Burnett. Mr. Chairman, the Safety Board meets once every two weeks, and we consider, in the course of our meetings, notation items that are normally reports that have been drafted for the Board's consideration.

In the course of approving a report or directing changes in a report, that becomes in effect the policy that the Board establishes, and its staff takes guidance from that as to what it does in future cases.

In addition, issues like comments on Congressional inquiries, or responses that we write to letters and letters to other agencies on their positions are sometimes calendared and considered.

In addition, the Board considers what we call "in the corners," on notation, or pink sheets. In writing, we provide policy direction.

In fact most of the letters that I sign as Chairman of the Board are letters that have been considered by all the Board members and signed off on as a joint matter of approval.

So the Board is very deeply involved in establishing Safety Board policy down to each individual letter.

Mr. Lehman. What about your meetings on establishing safety objectives, especially in regards to air traffic, and also on budgetary actions?

Mr. Burnett. Those are all done by Board order. Budgetary matters are not done—the Board usually reviews the budgetary submissions that we make, as well as testimony that we submit on the budget matters.

The Chairman, by law, is the chief executive officer of the Board and ultimately responsible for the allocation of resources, but I do that in consultation with the Board members on major issues such as reductions-in-force, or reallocation of resources, and major programmatic initiatives.

MICROCOMPUTER SYSTEM

Mr. Lehman. Last year it was indicated that you had just completed the installation of your new microcomputer system and you expected to have substantial productivity gains from this equipment.

To what extent have these gains been achieved?

[The information follows:]

The Board established its agency-wide microcomputer system approximately one year ago to enhance the capabilities and improve the productivity of its staff. It is working well, after some initial growing pains, which would be expected with such a large undertaking (we went from one microcomputer to at least one in each Board organizational unit all at one time). There has been substantial growth in both usage and interest by Board employees, to the extent that we now have approximately one terminal for every two employees. Some of the benefits achieved with the system are: (1) there is now one Board-wide word processing system (i.e., all Board staff with typing responsibilities use the new system, thereby eliminating the need to retype material); (2) a communication system is in place that allows the transfer of any data in the system between any users of the microcomputers or the mainframe computer, including field officers; and (3) data (management/statistical reports, etc.) can be developed readily by any user of the system, thereby eliminating time-consuming manual compilations and manipulations.

Some specific improvements which already have resulted from this system include: (1) the reduction of overtime required by our central word processing unit from $20,000 to approximately $5,000 annually; (2) a considerable shortening of the time required to type our accident reports because investigators who can type are preparing drafts on the microcomputer rather than laboriously writing them in long hand, and (3) since the secretarial staff in the bureaus and offices are now typing more of their own documents (rather than sending them to the central word processing unit) we have been able to assign one of the central word processing unit's staff to data inputting responsibilities. We also expect further gains to be achieved as the staff increases their proficiency and as new applications are added.

Mr. **LEHMAN**. Is this new system used for administration purposes or to assist in your accident investigation activities?

If both, what are the percentages for each?

[The information follows:]

Currently, approximately 75 percent of the Board's microcomputer system usage is for accident investigation tasks such as the preparation of accident reports, statistical reports, safety study reports, safety recommendations, etc., while approximately 25 percent of the usage is for administrative functions such as the development of policy directives, management reports, etc.

PERSONNEL REALIGNMENTS

Mr. **LEHMAN**. Are you currently considering any personnel realignments or other management actions to improve the efficiency or effectiveness of your programs?

[The information follows:]

While we have no personnel realignments planned at this time, we are in the process of developing a variety of contingency plans involving personnel realignments which might be necessary if our employment level must be reduced to 306 or below. In addition I should mention two recent realignments which have been made to improve the efficiency and effectiveness of our programs.

As a result of simplifying and streamlining the administrative procedures in support of the aviation appeals program, we have recently been able to transfer one of four clerical positions providing assistance to our Office of Administrative Law Judges to our Bureau of Technology to fulfill a higher priority need there. Also, we have divided our former Laboratory Services Division in the Bureau of Technology into two separate units (a Materials Laboratory Division and an Engineering Services Division) in recognition of their essentially unrelated functions (the former dealing with metallurgical analyses and the latter concerned with the readout and correlation of CVR and FDR with aircraft performance analyses), and in order to simplify and clarify reporting relationships.

ACCIDENT REPORTS

Mr. **LEHMAN**. Last year it was indicated that nine months was the average length of time it was taking you to issue a report.

What is the current situation?

[The information follows:]

The average elapsed time to issue a report was 11.83 months in 1985. Below is a listing of the average time for each individual mode of transportation in 1985:

Aviation	10.83
Railroad	13.96
Highway	8.28
Marine	11.55
Haz mat/pipeline	13.69

GOVERNMENT PUBLIC AFFAIRS AND GENERAL COUNSEL

Mr. **LEHMAN**. Would you indicate for the record the size of your government liaison and public information office and your office of general counsel, and provide some workload data for each of these offices for fiscal years 1984, 1985 and 1986.

[The information follows:]

The NTSB Office of Government and Public Affairs is staffed by four public information officers and two secretaries who report to the Director of the Office.

The Office of General Counsel includes the General Counsel and four staff attorneys, one paralegal person, and a secretary.

Work data for the Office of General Counsel follows:

Opinions and Orders resulting from appeals of actions involving seaman or airman certificates numbered 152 in fiscal year 1984; 154 in fiscal year 1985; and through February of this year, 78.

Depositions conducted numbered 195 (FY-84); 144 (FY-85); and 41 through February 1986. The office was also responsible for the drafting or promulgation of seven NTSB regulations or amendments thereto in both FY-84 and FY-85. The number through February 1986 is 5.

The Office of General Counsel is also involved in all court proceedings in which the NTSB is a party. They numbered 37 in FY-84; 27 in FY-85; and 15 through February 1986. In addition the General Counsel is represented at all meetings of the Board as well as hearings conducted in connection with accident investigations. In addition, the Office of General Counsel reviews all proposed reports by the NTSB and provides legal guidance in connection with the official duties of Board Members and staff.

The workload of the Office of Government and Public Affairs closely tracks that of the Safety Board in that a member of the public affairs staff accompanies our investigative "Go-Teams" to the scene of major accidents in each of the transportation modes -- aviation, rail, highway, marine and pipeline, as well as in cases of hazardous materials investigations. The role of the public affairs officer is to assist the press in understanding the work of the Board and accurately reporting the progress of investigations.

The same is true at public hearings conducted around the country near the site of major accidents or in connection with those accidents that otherwise enable the Board to address safety concerns. In addition, the Director of the Office of Government and Public Affairs regularly attends public hearings to be responsive to Congressional staff in attendance and others who have expressed an interest in the accident.

A public affairs officer "covers" each matter up for consideration at public meetings of the NTSB and serves as liaison officer for the press and public interested in the matter. The number of press releases issued each year generally reflects that aspect of Office activity, with the calendar year number of news releases as follows: 1984 - 56; 1985 - 51; and 1986 to date - 15.

The Office also produces the annual report to Congress and last year produced a 10-minute videotape presentation on the work of the Safety Board that is loaned to groups interested in our activities.

The core work of the public affairs staff is being responsive to countless public and press requests for information and assistance. After hours the home phone numbers of the public affairs staff is announced on a telephone answering machine so that their activity on behalf of the Board continues beyond the working day and through weekends.

One of the two secretaries in the Office is devoted virtually full time to Congressional liaison activity that includes assisting the Director of the Office in responding to several hundred written and telephone requests each year.

This secretary also assists the staff in the generation of drafts of testimony before state legislative bodies and Congressional committees, as well as speeches for the Chairman of the NTSB and Board Members at an average rate of about one a week.

CHAIRMAN'S TRAVEL

Mr. **Lehman**. Would you indicate for the record how much time you have spent away from your Washington headquarters in fiscal years 1985 and 1986 to date, indicating how much was related to accident investigation?

[The information follows:]

Business-related travel days on workdays during fiscal year 1985 numbered 98, of which 25 were related to accident investigations. The balance involved administrative travel, such as attendance at conferences, familiarization tours and training opportunities, field office visits, as well as 35 days devoted to speeches and testimony in support of Safety Board programs.

In fiscal year 1986, to date, business-related travel on workdays has occupied 38 days, of which 22 were related to accident investigations.

ADMINISTRATIVE DUTIES

Mr. **Lehman**. Would you also elaborate for the record on how the administrative duties of the Board are carried out in your absence?

[The information follows:]

I have made a general delegation of authority to the Managing Director with respect to the executive and administrative functions of the Board (including the supervision of personnel, the distribution of business among the personnel and units of the Board, and the use and expenditure of funds). Thus, in my absence, he is empowered to carry out all of the day-to-day operations of the Board. In addition, in my absence the Vice Chairman serves as Acting Chairman to deal with any policy matters which may arise and to preside over any Board meetings which may be held. I maintain daily telephone contact with my Washington office, of course, to advise and consult with the Vice Chairman, Members and the Managing Director, and am rarely more than several hours travel time from Washington in the event I am personally needed.

ACCIDENT INVESTIGATION

Mr. **Lehman**. Turn to the bureaus of accident investigation and field operations. You are requesting 149 staff years and $10,316,000 for accident investigation.

This is 16 staff years less than your original fiscal year 1986 level and nine staff years less than your fiscal year 1986 level after Gramm-Rudman.

Your workload data indicates that this will result in essentially a pro-rata reduction in the number of reports issued for each mode of transportation. Is this how you intend to allocate this reduction or do you intend to establish investigative priorities among the various modes of transportation?

Mr. **Kissinger**. Well, that's the way we hope it will happen. Obviously this is predicated on the assumption that we would have attrition that would, in fact, be across-the-board.

So we're going to do what we can do to try to make the cuts as uniform as possible.

DELEGATIONS TO FAA

Mr. **Lehman**. As I understand it, while you are responsible for determining probable cause for all aviation accidents, you did delegate some aviation accident investigation work to the FAA. With your reduced staff will you be delegating more aviation accident investigation work to the FAA?

If not, how will these investigations be accomplished; if so, do you intend to make any suggestions to the FAA to improve the safety information they produce from their investigations?

[The information follows:]

Because of our reduced staff, it will unfortunately be necessary to try to delegate more aviation accident investigation work to the FAA. The primary way, of course, that the FAA can improve the safety information their inspectors produce when investigating accidents for the NTSB, is through more intensive training in accident investigation of the type which we provide to our own investigators at our school. With the FAA's own shrinking resource base, however, it does not seem likely that such training will be high among their priorities, and it may well be that the FAA may not be able to assume responsibility for any further accident investigations on behalf of the Board at all. In that event, the Board's only recourse will be to rely on the data about certain accidents provided by the owner/operator involved in the accident, or to stop attempting to collect data or investigate certain accidents at all.

FAA REFUSAL TO IMPLEMENT RECOMMENDATION

Mr. Lehman. Last year you stated that FAA's failure to act on your recommendation (A-79-103) to revise 14 CFR 121.797 to more clearly define major and minor repair categories so that any damage to a structurally significant component is reported was "one of the most explicit cases of FAA having bowed to industry pressure".

Have you pursued this recommendation any further and do you have any other similar instances of FAA bowing to industry pressure?

Mr. Burnett. Mr. Chairman, my recommendation is that we close that recommendation unacceptable action after the FAA's final refusal to implement it.

Mr. Lehman. Are there any other instances of industry pressure?

Mr. Burnett. Well, I don't know of any other example as explicit as that that I can think of. There are probably other instances, which have not been as well documented.

Mr. Lehman. If you can include anything in the record which would indicate similar problems in that area, we would appreciate.

Mr. Burnett. We will do so.

[The information follows:]

The Safety Board understands that under the Administrative Procedures Act and the rulemaking process, interested parties, including those from industry are requested to comment on the merit of proposed rules and on the economic burdens that would be imposed by the proposed rules. The Federal Aviation Administration (FAA) is required to justify the proposed rules, establishing that the benefits outweigh the costs. The Safety Board is concerned that, on occasion, however, industry might be prone to overstate the costs to implement some proposed rules and the FAA might thereby be influenced to delay action to address some safety issues.

An example of such a situation is the Board's attempt to obtain installation of cockpit voice recorders (CVRs) on newly manufactured turbine-powered multi-engine airplanes certified for two-pilot operation and flight data recorders (FDRs) on all newly manufactured turbine-powered multi-engine airplanes and rotorcraft certificated to carry six or more passengers. The FAA has agreed to require the installation of CVRs in newly manufactured airplanes but not in rotorcraft and has yet to agree to require the installation of FDRs in such airplanes or rotorcraft. Industry has been concerned about the costs associated with the installation of these recorders and voiced these concerns strongly.

AIR TRAFFIC CONTROLLER SUPERVISION

Mr. Lehman. Last year you indicated that one of your six major unresolved aviation accident recommendations was to ensure that adequate supervision of controllers is available. What actions, if any, has FAA taken on that recommendation?

Mr. BURNETT. Well, the accident investigations that we've done in the past year have certainly not indicated that they have adequate supervision. In fact, many of them have revealed the lack of supervision.

The supervisors are there, but they may be working traffic, and they can't work traffic and provide a back-up at the same time.

AVIATION RECOMMENDATIONS

Mr. LEHMAN. You've already indicated that in the previous testimony. This just emphasizes that. Would you indicate for the record the four or five most significant aviation accident recommendations to the FAA which have not been satisfactorily resolved?

[The information follows:]

Significant safety recommendations to the FAA which have not been satisfactorily resolved include the following:

Safety Recommendation A-83-006, which recommended that the FAA require a means for the positive detection and elimination of water from the fuel tanks of aircraft equipped with rubberized fuel bladders. The FAA has developed an extensive Airworthiness Directive (AD) to correct fuel system deficiencies on specific aircraft equipped with fuel bladders; however, the AD does not adequately address the detection and elimination of entrapped water sufficiently. This recommendation is currently classified as "Open—Unacceptable Action."

Safety Recommendation A-79-103, which resulted from the Board's investigation of the American Airlines DC-10 accident at Chicago, recommended that the FAA revise 14 CFR 121 to more clearly define major and minor repair categories for reporting purposes. The FAA's response was that present regulations were adequate and no action was taken. This recommendation was classified as "Closed-Unacceptable Action."

Safety Recommendation A-84-48, which resulted from the Board's special study on alcohol usage in aviation, recommended that the FAA provide medical examiners with appropriate material to improve their ability to detect airmen with alcohol problems. The FAA has responded that current information given to examiners is sufficient, although existing guidelines require the applicant to admit to an alcohol problem. The Safety Board believes that considerably more could be done to improve the detection of airmen with alcohol problems and has requested that the FAA reevaluate its position on this matter.

Safety Recommendations A-81-139 through A-81-143, which resulted from the Board's special study on cabin safety in large transport aircraft, are considered as a group in that significant improvements in passenger safety could be realized by the implementation of technically available crashworthiness to aircraft certification requirements. The FAA rejected these recommendations based upon the cost to the industry of implementing the proposed changes and the lack of adequate data on accident crash forces. The Safety Board has requested that the FAA reconsider the recommendations based upon accident case histories. These recommendations are classified as "Open-Unacceptable Action."

RAILROAD TANK CARS

Mr. LEHMAN. In the rail area, what action has been taken on your recommendation (R-84-15) that the Federal Railroad Administration immediately initiate inspections of tank cars equipped with excess flow valves?

Mr. BATTEN. Mr. Chairman, the latest report we had from the FRA based on their inspections indicate that roughly one percent of the valves inspected were not properly seated.

Also, approximately 7 percent of those valves were loose and were not engaged in the seating properly.

They have also indicated to us the program that they plan to go forward with on continuing this program, the Board has reviewed that, and the Board has also made some comments concerning areas we believe they need to shore up.

We can provide for the record a copy of our letter back to the FRA.

[The information follows:]

National Transportation Safety Board
Washington, D.C. 20594

Office of the Chairman

JAN 14 1986

Honorable John H. Riley
Administrator
Federal Railroad Administration
400 Seventh Street, S. W.
Washington, D. C. 20590

Dear Mr. Riley:

We have reviewed your August 27, 1985, letter in further response to the National Transportation Safety Board's Safety Recommendation R-84-15 which was issued as a result of the Board's preliminary investigation of an accident in which vinyl chloride under pressure escaped from a newly loaded, but not yet secured, railroad tank car at the loading facility within Formosa Plastic Corporation's plant at Baton Rouge, Louisiana, on July 30, 1983. Our comments follow:

R-84-15

> Immediately initiate inspections of tank cars equipped with excess flow valves to determine the extent to which these tank cars may have improperly positioned excess flow valve seats, determine the cause of deficient conditions found, and require correction of deficiencies before inspected tank cars are returned to service.

The Safety Board appreciates being informed of the results of the initial inspection program conducted by the Association of American Railroads' (AAR) Tank Car Committee task force and of the measures adopted by the AAR Tank Car Commmittee at its March 1985 meeting to address the problem of lpose excess flow valves. The Safety Board is concerned, however, that particular aspects of the measures adopted by the Tank Car Committee may not be sufficiently specific.

The Board notes that the circular letter to be issued to the AAR members and to the private tank car owners addresses excess flow valves only on tank cars used to transport a flammable gas. The Board questions the rationale for limiting the inspection to these tank cars. We believe that all tank cars that are required to have excess flow valves should be included without regard to the commodity being transported and that the circular letter issued to the AAR members should reflect this. The Board notes further that the circular letter is to indicate that the excess flow valves are to "be checked for tightness and tightened...;" however, the letter does not indicate to what specification or in what manner the excess flow valves are to be tightened.

As outlined in the FRA's letter, the third measure adopted by the AAR Tank Car Committee is that a representative sample of the tank cars addressed in the circular letter to be issued to the AAR members are to be reinspected. The Board's concern is that there is no indication as to when this reinspection will occur. If the cars are not to be reinspected until the next tank or safety valve retest or the next time the car is cleaned, as outlined in the proposed circular letter, the reinspection conceivably would not take place for as long as 5 years. The Board would appreciate clarification of this matter.

The Board notes further that the AAR Tank Car Committee is to review excess flow valve design to consider eliminating separable valve seats in the 2-inch and 3-inch sizes, or to provide a positive locking device. The Board would appreciate being informed of the outcome of this review.

In view of FRA's efforts to date to address this safety problem, Safety Recommendation R-84-15 will remain in its current status of "Open--Acceptable Action," pending further response to the Board's concerns.

Respectfully yours,

ORIGINAL SIGNED BY
JIM BURNETT

Jim Burnett
Chairman

COMPATIBLE RADIO EQUIPMENT

Mr. **Lehman**. One of your major unresolved rail recommendations was that FRA initiate a rulemaking to require trains which operate on common tracks to have compatible radio equipment. Has FRA taken any action on this recommendation?

Mr. **Sweedler**. Mr. Chairman, we're rather disappointed that the FRA has not acted on the radio recommendations. There is more than one radio recommendation.

While the administrator has indicated this was a high priority area for him, and he hoped to do something with it, we are still patiently waiting for some action in that regard.

Mr. **Burnett**. Mr. Chairman, the administrator has indicated to me several times that this is his next major initiative, the area of the use of radios. I believe he is being truthful about that, but there's certainly a lot of improvement that needs to come there, and we are very eager to see that process begin.

RAILROAD RECOMMENDATIONS

Mr. **Lehman**. Would you indicate for the record the three or four most significant rail recommendations to the FRA and Amtrak which have not been satisfactorily resolved?

[The information follows:]

Amtrak Recommendations

As a result of the Board's investigation of the derailment of National Railroad Passenger Corporation (Amtrak) train No. 5 near Emerson, Iowa, on June 15, 1982, the Board issued the following recommendations to Amtrak.

R-83-22

Require that those railroads under contractual agreement to operate passenger trains adopt a system of professionally gathered and evaluated meteorological information to better assure timely knowledge of climatic conditions that may affect the safe operation of those passenger train movements. (Open--Acceptable Action)

R-83-25

Evaluate and modify, as necessary, emergency lighting systems in passenger carrying cars to better protect the functioning of emergency lights in emergency situations. (Open--Unacceptable Action)

As a result of the Board's investigation of the head-on collision of National Railroad Passenger Corporation (Amtrak) passenger trains Nos. 151 and 168 in the Astoria section of Queens, New York, New York, on July 23, 1984, the Safety Board issued the following Safety Recommendation to Amtrak:

R-85-83

Develop an operating rules verification procedure that will require employees to demonstrate that they understand the meaning of the rules and can properly derive and apply the correct rules for use in emergency circumstances. (Open--Acceptable Action)

As a result of the Board's investigation of the derailment of Amtrak passenger train No. 60, The Montrealer, on the Central Vermont Railway near Essex Junction, Vermont, on July 7, 1984, the Board issued the following Safety Recommendation to Amtrak:

R-85-123

Develop and install effective retention devices on its overhead luggage racks to prevent the dislodging of luggage and other articles in a collision and/or derailment. (Open--Awaiting Response)

FRA Recommendations

As a result of the Board's review of railroad accidents caused by track failure under dynamic loads and involving track geometry parameters such as gage, profile, alignment, and crosslevel not being maintained to the minimum standards set by the Federal Railroad Administration (FRA), the Safety Board issued the following Safety Recommendations to the Federal Railroad Administration on March 6, 1985:

R-85-10

Develop and implement a national track inspection program which requires railroad companies to use automated track geometry measurement systems in an on-going, systematic program of inspection of all routes emphasizing initially routes regularly travelled by trains carrying either hazardous materials or passengers. (Open--Unacceptable Action)

R-85-11

Increase the use of automated track geometry inspections in its evaluations of railroad track systems and integrate the results of automated track geometry inspections into regional surveillance and enforcement programs, emphasizing initially routes regularly travelled by trains carrying either hazardous materials or passengers. (Open--Unacceptable Action)

As a result of the Board's investigation of a Denver & Rio Grande Western Railroad Company yard accident involving a punctured tank car in Denver, Colorado, on April 3, 1983, the Board issued the following Safety Recommendation to the Federal Railroad Administration:

R-85-64

In consultation with the Research and Special Programs Administration and the Association of American Railroads conduct a full testing and evaluation program to develop a head shield to protect DOT specification aluminum tank car ends from puncture and mandate installation of the head shield at an early date. (Open--Acceptable Action)

As a result of the Board's investigation of the derailment of Amtrak passenger train No. 60, The Montrealer, on the Central Vermont Railway near Essex Junction, Vermont, on July 7, 1984, the Safety Board issued the following Safety Recommendation to the Federal Railroad Administration (FRA) on January 15, 1986.

R-85-129

Establish regulations that address the issues surrounding the use of radios for operational purposes on trains to include, but not be limited to, requirements for radios to be installed on trains; usage requirements for inter- and intra-train communications; usage requirements for dispatching and control operations; frequency compatibility requirements; and maintenance, inspection, and testing requirements. (Open--Awaiting Response)

AMTRAK

Mr. LEHMAN. What do you believe are the most serious safety concerns regarding Amtrak's operations?

Mr. BATTEN. The area that we've looked at most recently on that, and one that gives us great concern, is the inability of the radios to operate after collision, which means that there is lack of communication between the front end and the head end of a train.

This does cause considerable problem during emergency response to derailments.

Also, we've expressed considerable concern in the past about the crashworthiness of some of the cars, the luggage stowage, tie-down capabilities, fire resistence of the interior of the cars.

And we can make available for the record more recommendations to be made in this area.

Mr. BURNETT. In addition, we've had quite a problem, repetitive problems with the wash-outs affecting Amtrak's operations.

We have a situation where, because of the basic reductions in the number of rail personnel scattered across the country and the centralization of rail personnel, you don't really have people who are posted in these remote areas who realize that there's been a big rainstorm or something that may affect the rail operations. The answer to that is really good weather prediction, which the rail industry, I think, is moving on, but they have yet to achieve what we think would be an acceptable level of weather predictions and forecasting—and transmission of that to their crews.

Mr. LEHMAN. How responsive has Amtrak been to your recommendations?

Mr. BURNETT. Generally, they've been fairly responsive. I think I answered last year that they had been.

This year we've seen more problems with their response, and I think it's due in part to the fact that they've been under quite a bit of financial pressure also. One major area we mentioned a while ago in which they have just refused to do anything.

Mr. LEHMAN. What about your recommendation on the flammability of materials?

Mr. SWEEDLER. Going back to the other question, it's the same thing. They're quite responsive on the operational recommendations. But when we get into anything that has to do with retrofitting of equipment, like the flammability type of recommendation, they shy away from a positive response.

On the recommendation dealing with the flammability standards, they have indicated to us that they would only put in the material that met the current flammability standards when they had a major overhaul of their cars. And we actually closed this recommendation unacceptable. We did not feel that that was an acceptable response.

UMTA'S SAFETY PROGRAM

Mr. LEHMAN. Last year you said in discussing UMTA's safety program that they had virtually none. When we discussed your remarks with Administrator Stanley, he stated that UMTA's safety program has been fairly effective in the past. Would you agree that UMTA has a "fairly effective" safety program? If not, why not?

Mr. BURNETT. I would stick with our answer that we gave last year.

Mr. LEHMAN. Have you looked into UMTA's procedures for using independent consultants to ensure safety in the design and construction of major transit projects?

Mr. BURNETT. No, we have not.

Mr. LEHMAN. Has UMTA responded to your recommendation that they require transit authorities to have a formal, continuing process for including local fire and emergency medical service officials in reviews of fire and safety considerations during the system planning, design, construction and operation?

Mr. SWEEDLER. In 1983 they did respond indicating that they agreed with what we had asked them to, and they would publish guidelines, but we are still waiting for these guidelines. In fact, in 1985, the Board wrote back to them and said if you're going to do it, do it quickly, and we understand that something is happening, but it's still much too slow.

NEW YORK SUBWAY SYSTEM

Mr. LEHMAN. Do you get a little nervous about that New York subway once in a while?

Mr. BURNETT. We instituted a special investigation on that, Mr. Chairman, and following that investigation there was a substantial decrease in the number of fires that they had—although many of the recommendations we've made have still not been followed up on, and I wouldn't want to rest easy about the possibility of a major fire on the New York subway.

UMTA'S RESPONSES TO RECOMMENDATIONS

Mr. LEHMAN. Would you indicate for the record UMTA's responses to the other three major unresolved recommendations (R-79-62, R-80-48, and R-81-11) which were listed on page 101 of last year's hearing record?

[The information follows:]

R-79-62.—Require those rapid transit systems that depend on uncoupling damaged cars from trains for the evacuation of passengers to redesign and modify car uncoupling circuitry to provide train operators with a positive means of uncoupling from within the cars in the event of an electrical short or other malfunction in the control circuit.

In that UMTA had indicated that it would survey the properties and request the properties to make appropriate changes in their methods for uncoupling cars in emergencies, the Safety Board held Safety Recommendation R-79-62 in an Open—Acceptable Alternate Action status in the Board's letter of June 21, 1982. In that letter the Board requested a copy of any UMTA guidelines, as well as an indication of which properties depend on uncoupling of cars in emergencies, and any documentation available from those properties about such emergency procedures, so we may know how many are potentially affected by our recommendations. UMTA has yet to respond to our June 21, 1982, letter. A letter is currently being circulated proposing that the recommendation be placed in a Closed—Unacceptable Action status, if the Board does not receive a substantive reply from UMTA within 90 days.

R-80-48.—Require other rapid transit operations to establish adequate mutual emergency notification procedures in instances where rapid transit trains operate in close proximity to an operational railroad line.

In our May 22, 1981 letter, the Safety Board noted that UMTA will review transit property procedures to determine if modifications are necessary to ensure that notification procedures are adequate. The Board also noted that UMTA planned to i corporate a "shared corridor notification" guideline in the Emergency Preparedne

Document being jointly prepared by UMTA and the American Public Transit Association. Safety Recommendation R-80-48 was held in an Open—Acceptable Action status. In our June 21, 1982 letter, the Board continued to hold Safety Recommendation R-80-48 in an Open—Acceptable Action status pending completion of the guideline. UMTA has never responded to our June 21, 1982 letter. A letter is being circulated proposing that Safety Recommendation R-80-48 be placed in a Closed—Unacceptable Action status if we do not receive a substantive reply to our letter within 90 days.

R-81-11.—Establish a process, based upon testing and evaluation in accordance with such criteria as the Administration shall establish, for the certification or identification of specific products and materials used in the construction of rail rapid transit cars as meeting minimum safety standards or guidelines, and provide this information to rail rapid transit authorities on a regular basis.

In our January 11, 1985, letter the Safety Board noted that UMTA continues to assist rail transit operators in testing products to be used in revenue service and encouraged UMTA to do so. However, we indicated that it was the Board's position that as a result of these tests, UMTA should take the next step and establish a process to identify specific products and materials as meeting minimum safety guidelines and that this information should then be disseminated to the rail transit operators. UMTA has yet to respond to our January 11, 1985 letter. Safety Recommendation R-81-11 is being held in an Open—Acceptable Action status.

TRANSIT RECOMMENDATIONS

Mr. **Lehman**. Would you also indicate for the record the four or five most significant recommendations made to UMTA which have not been satisfactorily resolved?

[The information follows:]

As a result of the Board's "Safety Effectiveness Evaluation of Rail Rapid Transit Safety," the Board issued the following Safety Recommendations to the Urban Mass Transportation Administration:

R-81-3.—In cooperation with rail rapid transit authorities and local fire officials, immediately survey the facilities, communication systems, fire safety and other emergency equipment, and emergency plans of existing rail rapid transit systems to determine their capability for evacuation of passengers under various operations and passenger load conditions. (Open—Acceptable Action)

R-81-9.—Develop and publish for public comment a comprehensive, 5-year safety program plan for increased safety oversight of new rail rapid transit systems as they are developed and for improving the safety of existing systems. (Open—Acceptable Action)

R-81-10.—Develop and publish for public comment a comprehensive, 5-year plan for rail rapid transit safety research and development. (Open—Acceptable Action)

R-81-15.—Develop Federal guidelines for training programs for rail rapid transit employees, to include actual performance, under simulated conditions, of the duties they may be required to perform in the event of a fire or other emergency. (Open—Acceptable Action)

R-81-18.—Require rail rapid transit authorities to have a formal, continuing process for including local fire and emergency medical service officials in reviews of fire and life safety considerations during system planning, design, construction, and cooperation. (Open—Acceptable Action)

SCHOOL BUS REPAIRS

Mr. **Lehman**. In the highway area, last year it was indicated that you hoped NHTSA would reconsider its position regarding your recommendation (H-83-84) that they include in highway safety program standard 17 the requirement that the states institute quality control procedures for school bus repairs to determine if needed repairs have been performed adequately or if major repairs are required.

What problems does NHTSA have with this recommendation and what is your view of NHTSA's reply?

Mr. **Sweedler**. Well, we asked them to, as you indicated, Mr. Chairman, to reconsider their decision, and they reconsidered it, and they said they still could not go along with our recommendation, primarily because they felt that the cost outweighed the benefit. And we still feel that our recommendation is important and should be implemented.

CHILD SAFETY SEATS

Mr. **Lehman**. Last year you referred to seven safety recommendations addressed to NHTSA regarding instructions for the use of safety seats, research into misuse, test procedures for performance evaluation of safety seats and tests to examine seat belt performance when used by children of various ages.

What actions has NHTSA taken regarding these recommendations?

[The information follows:]

As of July 26, 1985: NHTSA has recently issued two Federal Register notices pertaining to these recommendations. One notice proposes to test all child safety seats in a 30 mph untethered test; the second notice announces their decision to terminate the rulemaking action proposing to require tether anchorages in motor vehicles. All recommendations are presently classified as "Open—Acceptable Action" except H-83-56 which has been classified as "Closed—Reconsidered."

DRIVER FATIGUE

Mr. **Lehman**. You also referred last year to two recommendations (H-84-59 and 60) to FHWA regarding driver fatigue of operators of interstate commercial vehicles.

What has FHWA's response been to these recommendations?

[The information follows:]

H-84-59.—FHWA issued "On-Guard" Bulletin Vol. 16, No. 1 dated March 1985 (copy attached). On June 3, 1985, NTSB classified H-84-59 as "Closed—Acceptable Action."

H-84-60.—This recommendation is presently classified as "Open—Acceptable Action." FHWA will underake the necessary research to meet the intent of this recommendation.

**Prepared by
Bureau of Motor
Carrier Safety**

**Vol. 16 No. 1
Washington, D.C.
March 1985**

On Guard

U.S. Department of Transportation
Federal Highway Administration

DEATH IS FALLING ASLEEP AT THE WHEEL

About 5:15 a.m. on November 30, 1983, an intercity bus travelling in the right southbound lane of U.S. 59 near Livingston, Texas, struck the rear of an empty tractor flatbed-semitrailer. The bus then veered across the left southbound lane, crashed through a bridge guardrail and vaulted to a creekbank 26 feet below the bridge deck. Six of the 11 bus passengers were killed. Five bus passengers, its driver, and truck driver were injured.

Investigation of the accident disclosed that the probable cause was the bus driver's lack of alertness, possibly due to fatigue.

Research has shown that accidents which occur between the hours of midnight and 8 a.m. most often result from driver fatigue and inattentiveness. It is during these hours that most driving errors occur. Virtually all critical errors involving sleepy or inattentive bus drivers occurred on late night and early morning tours of duty.

While operating buses on irregularly scheduled runs, drivers should take advantage of the frequent comfort stops that may be available. Stretch, drink coffee, or walk around.

STAY ALERT, DON'T FALL ASLEEP BEHIND THE WHEEL!

HIGHWAY RECOMMENDATIONS

Mr. **Lehman**. Would you list three or four major open recommendations pending with FHWA and NHTSA?

[The information follows:]

FHWA

H-83-68.—The NTSB recommends that the Federal Highway Administration: Revise Federal Motor Carrier Safety Regulation 49 CFR 391.43 to incorporate a provision, similar to that specified in 14 CFR 67.20(A) for airmen medical certification, which will prohibit the falsification or omission of medical information in connection with a medical certification physical examination.

H-84-47.—Augment the current inventory and rating methodology of the National Bridge Inspection Standards, which emphasizes an overall rating for planning large-scale replacement or rehabilitation funding, to require inspections and ratings of sufficient depth and detail to address all elements critical to safety.

H-84-60.—The NTSB recommends that the Bureau of Motor Carrier Safety of the Federal Highway Administration: Determine practice methods and means to prevent or minimize dozing at the wheel by drivers of carriers in interstate commerce, and advise the Safety Board of its findings.

NHTSA

H-71-37.—The NHTSA study the feasibility and practicality of a standard for passenger buses requiring that overhead surfaces which include roof linings, moldings, parcel or luggage shelves, edges, and support hardware be designed so as to reduce or prevent direct contact injuries in rollover and upset accidents, and that such areas resist separation or fracture of a type which would expose edges to passengers, such protection is of particular importance in the absence of passenger restraints not currently required.

H-82-38.—The NTSB recommends that the NHTSA: Examine the crash performance of vans in rollovers and all accident types, through its crash testing and accident investigation programs, to determine if there is any tendency for doors and other escape areas to unnecessarily jam or be blocked in low-speed crashes. If necessary, establish additional crash performance standards for van escape areas, especially those used for public transportation.

H-75-26.—Conduct research on crash dynamics for sideward-sitting occupants and develop and issue adequate standards for their protection.

COAST GUARD INVESTIGATIONS

Mr. **Lehman**. As you have stated in the past, basically all marine accidents are investigated by the Coast Guard.

How would you assess the quality of their investigation?

[The information follows:]

The Coast Guard investigation procedures mitigate against achieving effective safety investigations. The goals of accident prevention are overshadowed by the diverse goals of the investigation participants. Attorneys, who have prominent roles in the proceedings, utilize the investigations for legal discovery purposes for forthcoming litigation, and attempt to minimize evidence harmful to their clients. In most cases the Coast Guard designated "parties in interest" are actually defendants and the investigation becomes an adversarial proceeding instead of an objective fact-finding effort. This is further emphasized by the Coard Guard's role as the enforcer of Federal laws and regulations. Consequently, the Coast Guard investigations lack a unity of purpose and the ability of focus on the real causes of the accidents.

In addition to the defects created by the factors described above, the quality of accident investigations conducted by the Coast Guard is dependent upon the experience and knowledge of the Coast Guard officers involved. Formal proceedings are usually presided over by senior Coast Guard officers with maritime experience. However, they usually have very little experience in accident investigation. The majority of Coast Guard accident investigations are conducted in an informal manner by junior officers who have limited experience as mariners and as investigators. The quality of these investigations is dependent upon the talent of the individual officer, his workload (some Coast Guard investigators may have as many as 30 accident investigations in progress at the same time), his collateral duties, and the standard of efficiency demanded by the particular Coast Guard office where he works. The high workload, limited experience and other constraints on Coast Guard investigators result in many cursory accident investigations.

Mr. **Lehman**. Would you update for the record the information contained on page 105 of last year's hearing record showing the average time to complete Coast Guard investigations and percentage of investigations incomplete after two, three and four years?

[The information follows:]

The following table summarizes the average time in months for the U.S. Coast Guard (USCG) to complete a report and the percent of investigations pending at the end of 1983, the end of 1984, the end of 1985 and as of March 13, 1986.

	1983	1984	1985	As of Mar. 13, 1986
Average time in months from date of accident until USCG report received by Safety Board	23	16	[1] 35	11
Percent of USCG investigations incomplete after 2 years from date of accident (percent)	18	11	5	5
Percent of USCG investigations incomplete after 3 years from date of accident (percent)	9	14	3	3
Percent of USCG investigations incomplete after 4 years from date of accident (percent)	1	7	6	7

[1] The unusually high average is the result of the USCG submitting a larger number of old reports. It is to be noted that the USCG average for 1986 has been reduced to 11 months.

Note.—As of March 13, 1986, 15 percent of the USCG investigations are incomplete after 2 or more years.

MTB INVESTIGATIONS

Mr. **Lehman**. In the past few years you have indicated that the Materials Transportation Bureau's pipeline investigations are seriously limited in their safety usefulness and that you had made suggestions on how they could use their data collection and accident investigations to focus their safety and compliance efforts, but hadn't received any commitment from them to go ahead with your suggestions.

To what extent have they improved during the past year?

[The information follows:]

I am pleased to report that RSPA, within the past couple of months, met with Board staff to discuss their present plans for addressing inadequacies in its pipeline data systems and the uses thereof. RSPA now has underway an indepth look into its data systems to determine information now available to aid in addressing improved management of its regulatory, inspection, and enforcement programs. Further, this review is to identify voids or deficiencies in the data systems which prevent it from better focusing its and the states' compliance programs. This study is being carried out by the Transportation Safety Center and is to be complete within the next several weeks. We will be looking forward to reviewing the results and making comment to RSPA concerning its plans for improving this most important management tool.

RSPA RESPONSE TO RECOMMENDATIONS

Mr. **Lehman**. Would you update for the record the status of the recommendations P-80-29, P-80-72, I-80-1, I-80-3, R-83-90, P-83-90, P-80-47, and P-82-42, which were listed on page 106 of last year's hearing record?

[The information follows:]

I-80-1: Open—Unacceptable Action.
I-81-3: Open—Unacceptable Action.
P-80-29: Open—Acceptable Action.
P-80-47: Open—Unacceptable Action.
P-80-72: Open—Unacceptable Action.
P-82-42: Open—Unacceptable Action.
R-83-90: Open—Unacceptable Action.

OPEN RECOMMENDATIONS TO RSPA

Mr. LEHMAN. Would you indicate any other major pipeline and hazardous materials recommendations to RSPA which have not been satisfactorily resolved?

[The information follows:]

P-76-10.—Amend 49 CFR 192 to define more realistically an operator's responsibility for gas piping inside buildings. Currently "Open—Unacceptable Action."

RECOMMENDATIONS CLOSED

Mr. LEHMAN. Would you update for the record the table showing the number of recommendations closed, which was included on page 107 of last year's hearing record?

[The information follows:]

During 1985 there were 400 Safety Recommendations closed.

ACCIDENT INVESTIGATIONS

Mr. LEHMAN. Would you indicate for the record the number of accident investigations conducted in each mode of transportation during fiscal years 1984, 1985, and 1986?

[The information follows:]

ACCIDENT INVESTIGATIONS CONDUCTED

	Fiscal year—		
	1984	1985	1986[1]
Aviation	3,912	3,967	3,900
Highway	187	210	200
Marine	71	134	100
Pipeline/Hazmat	30	19	25
Railroad	146	142	150

[1] Estimate.

AVIATION ACCIDENTS AND FATALITIES

Mr. LEHMAN. Would you also update for the record the table on general aviation and air carrier accidents and fatalities, which was included on pages 107 and 108 of last year's hearing record?

[The information follows:]

CALENDAR YEAR 1984[1]

	Accidents	Fatalities
General Aviation:		
Approach/landing accidents	1,163	178
Midair collision accidents	25	62

CALENDAR YEAR 1984[1]—Continued

	Accidents	Fatalities
Accidents involving the following as cause/factors:		
Weather	816	463
Maintenance personnel	117	26
Poor/inadequate design	3	0
Traffic control personnel deficiencies/inadequacies	7	15
Air carriers operating under 14 CFR 121, 125, 127:		
Approach/landing accidents	3	0
Midair collision accidents	0	0
Accidents involving the following as cause/factors:		
Weather	7	0
Maintenance personnel	1	0
Poor/inadequate design	0	0
Traffic control personnel deficiencies/inadequacies	2	0
Air carriers operating under 14 CFR 135:		
Approach/landing accidents	54	13
Midair collision accidents	1	15
Accidents involving the following as cause/factors:		
Weather	35	21
Maintenance personnel	17	5
Poor/inadequate design	0	0
Traffic control personnel deficiencies/inadequacies	0	0

[1] Statistics presented are drawn from data, some of which have not been approved for release; therefore, they should be regarded as preliminary.

ACCIDENT INVESTIGATION AND FIELD OPERATIONS WORKLOAD

Mr. LEHMAN. Would you provide for the record separate breakdowns of the costs, personnel, and workload data for fiscal years 1985, 1986, and 1987 for the bureau of accident investigation and for the bureau of field operations?

[The information follows:]

	1985	1986-GR	1987
Costs ($000):			
Bureau of Accident Investigation	$3,622	$3,491	$3,506
Bureau of Field Operations	7,035	6,782	6,810
Total	10,657	10,273	10,316
Personnel:			
Bureau of Accident Investigation	46	44	42
Bureau of Field Operations	119	114	108
Total	165	158	150
Workload:			
Bureau of Accident Investigation:			
Major accident reports:			
Aviation	10	11	10
Railroad	11	11	10
Highway	6	6	5
Marine	12	11	11
Hazardous materials/pipeline	6	6	5
Nonmajor—Marine	45	45	41
Nonmajor—Hazardous mat./pipeline	24	24	22
Public hearings	10	10	9
Bureau of Field Operations:			
Field accident investigation reports:			
Aviation	3,125	3,120	2,860
Railroad	176	176	161
Highway	235	235	216

BUREAU OF TECHNOLOGY

Mr. **Lehman**. Turn to the bureau of technology.

You are requesting 61 staff years and $4,774,000 for this bureau. This is 6 staff years less than your original fiscal year 1986 appropriation and three staff years less than your revised fiscal year 1986 level after sequestration.

How will the reduction in staff years affect the activities of this bureau?

Mr. **Kissinger**. Substantially, because these are the people that fill out our go-teams, and provide the technical expertise of the agency, so it is going to reduce our flexibility.

Mr. **Lehman**. Would you indicate for the record how many personnel you have assigned to each of the seven program areas listed on pages 48 and 49?

[The information follows:]

The following number of employees are assigned to the seven program areas listed on pages 48 and 49 of the budget document:

Program area:	Filled positions
Human performance	6
Survival factors	13
Aviation engineering	13
Operational factors	10
Surface engineering	10
Engineering services	10
Materials laboratory	4
Total	66

RECRUITING

Mr. **Lehman**. Last year you referred to recruiting problems for aeronautical engineers, railroad safety engineers, marine investigators, automotive engineers and highway accident investigators.

Are you still experiencing recruiting problems and how many vacancies do you have in these areas?

Mr. **Kissinger**. Yes, we are, and just within the bureau of technology, we have four vacancies in those specific areas.

HUMAN PERFORMANCE RECOMMENDATIONS

Mr. **Lehman**. What were the two or three most significant human performance recommendations made during the past year?

[The information follows:]

Based on the investigation of two recent accidents, one in which a Boeing 727 struck a navigational aid antenna on takeoff (Denver, Colorado, May 31, 1984) and another in which a DC-9 crashed while attempting a go-around (Detroit, Michigan, June 13, 1984), both of which occurred when windshear was being reported at the respective airports, the Safety Board recommended to the FAA:

In cooperation with air carriers and manufacturers, develop a common windshear training program, and require air carriers to modify airline training syllabi to effect such training.

The investigation of a rejected takeoff by the captain of a Boeing 727 (Washington, D.C. September 24, 1985), when he observed a helicopter departing from the other end of the airport which would cross his projected flight path (both aircraft were under tower control), resulted in the issuance of the following recommendations to the FAA:

Study the feasibility of establishing standard VFR helicopter routes and arrival and departure procedures at major airports throughout the National Airspace System.

Examine the administration of the Technical Appraisal Program at Washington National Airport tower to confirm compliance with all directives pertaining to ATC Specialist proficiency requirements.

Require that on-the-job training at specified controller positions be performed by controllers who are qualified instructors who have current performance evaluations at the specified position.

Following the investigation of a head-on collision by two freight trains which were being operated on dispatcher-issued train orders in nonsignalized territory (Motley, Minnesota, June 14, 1984), the Safety Board recommended to the Federal Railroad Administration and the Association of American Railroads to jointly:

Initiate a program designed to establish and document aptitude and other performance oriented selection/screening criteria, training and testing procedures for individuals to be employed in safety critical positions such as train dispatchers.

Based on the investigation of numerous accidents in different transportation modes in recent years in which the subject of postmortem generation of alcohol has been an issue, the Safety Board recommended to the Secretary of Transportation to:

Initiate research designed to expand the clinical base of knowledge regarding the postmortem generation of alcohol levels due to microbial action in order to relate that knowledge to postaccident toxicological testing requirements for the investigation of transportation accidents.

HUMAN PERFORMANCE STAFFING

Mr. LEHMAN. How many personnel do you currently have assigned to this division and how does this compare with a year ago?

[The information follows:]

The Board has six employees assigned to the Human Performance Division. However, one was recently promoted to special assistant to a Board Member, another was selected for a position as an Investigator-in-Charge of major aviation accident investigations, and a third has accepted a position with a major aircraft manufacturer. This compares with eight employees a year ago.

HUMAN PERFORMANCE DIVISION CHIEF

Mr. LEHMAN. Would you indicate for the record the investigative background of the chief of this division?

[The information follows:]

The Safety Board's Human Performance Division studies human behavior and other before-the-accident factors that might be causal. Its specialists accompany investigators to accident scenes involving all modes of transportation, documenting not only behavior but medical histories, training, workload, equipment design and work environment. Their goal is systematic development of the reasons for criticial human errors in transportation accidents.

Dr. Charles M. Overbey, the Chief of our Human Performance Division, has over fifteen years experience in human factors safety research and the investigation of human performance errors in accidents. He was selected for this important job at the Safety Board because of his outstanding experience and educational background. Dr. Overbey is one of the few human performance specialists in the field who combines engineering undergraduate training (B.S. Degree in Mechanical Engineering) with graduate study in applied psychology. He received his Ph.D. from the Johns Hopkins University where he was awarded a National Science Foundation Fellowship for his investigation of the causes of human performance errors. The Safety Board believes that Dr. Overbey's practical engineering background combined with his expert-level knowledge in behavioral science uniquely qualifies him for the multidisciplinary job of managing the NTSB's human performance investigators in major transportation accidents.

Dr. Overbey came to the NTSB from the Nuclear Regulatory Commission where he was hired, following the Three Mile Island Unit-2 accident, to manage and direct the research and development of human factors safety regulations and standards for the U.S. nuclear industry. While working at the NRC as Human Engineering Section Leader, he frequently was called upon to investigate and analyze the human performance issues in accident/incident investigations at various nuclear powerplants. As a result of the experience he gained in these investigations, he initiated a feasibility study of developing a human factors accident data reporting system for the nuclear industry similar to the Aviation Safety Reporting System (ASRS) that currently exists in the aviation industry. He also managed a human performance reliability research project to identify and predict human error probabilities in nuclear operations and maintenance tasks.

Before joining the NRC, Dr. Overbey worked as a senior engineering psychologist at the National Highway Traffic Safety Administration with responsibility for human factors studies of driver-related safety issues in heavy-duty truck accidents. He was selected as one of the members of a DOT Working Group to prepare a 1982 report report to Congress on Large Truck Accident Causation which represented a benchmark summary of state-of-the-art knowledge on this subject.

AVIATION—DRUGS

Mr. LEHMAN. Last year it was indicated that you recommended that FAA expand their research on the potential effects of drugs on pilot performance.

Has FAA responded to your recommendation?

Mr. SWEEDLER. Actually the Department of Transportation has set up a task force to look at the potential effects of drugs in all modes of transportation, which came out of this recommendation, and they're working with the Transportation Systems Center in Massachussetts. But it's a slow process, and they're first trying to identify the various drugs.

So they are moving on it, but it looks like it's going to be a long, uphill fight to get something done.

Mr. LEHMAN. You know, we're very concerned about drug use among professional football and baseball players. But as far as I know, the people in jobs that require 100 percent performance are not required to undergo the same tests, or spot checks, unless they have an accident. Then after the accidents they check.

Is there any spotchecking urinalysis for pilots?

Mr. BURNETT. Not that we're aware of. We had a recent accident under investigation involving a Part 135 cargo carrier in which there is no explanation for why the plane crashed into the mountain. We have already uncovered that the pilot of this aircraft had a long, repetitive history of drunken driving, and yet the FAA has no procedures to check the traffic records of their applicants for pilots licences, even for the air transport pilots licences, which are required for this operation.

So, we would hope that they would adopt a more aggressive policy of checking this sort of thing.

Mr. LEHMAN. The airline pilot has to take a physical how often?

Mr. BURNETT. Every six months, for a captain.

Mr. LEHMAN. Do they take a urinalysis with the physical?

Mr. BURNETT. They don't require any kind of testing, unless the application reveals some problem.

Mr. LEHMAN. I think that's kind of a comment on society that it's more important for the quarterback to have a urinalysis than the captain of an airliner.

Mr. BURNETT. Or a racehorse.

Mr. LEHMAN. We've sure got our priorities straight, don't we?

What about making a recommendation for something like that?

Mr. BURNETT. We have made recommendations in that area. I'm not sure that we're through in that area, yet, but the FAA so far has not seemed to be very responsive to anything that we've said on that.

Mr. **Lehman**. The trouble is it's very difficult to make a urinalysis after the accident.

Mr. **Burnett**. Well, we make a lot of tests on dead pilots, and we've found in ten percent of the general aviation accidents a positive reading for alcohol. And sometimes for other drugs.

Mr. **Schleede**. There's another problem, Mr. Chairman, that goes beyond the urinalysis tests for use of illicit drugs. In the recent Henson case, one of the pilots was found to have been using diet pills, and birth control pills—it was a female pilot.

We have made recommendations to the DOT on the evaluation of the effects of these type of drugs—not illicit drugs, but over-the-counter drugs, or prescription drugs, and the potential influence on pilots, because a lot of them are not aware of what the adverse effects could be.

IMPACT OF AUTOMATION ON PILOTS

Mr. **Lehman**. You also referred to a recommendation to FAA that flight crew training include a review of the adverse effects of automation on pilot performance.

What has FAA's response been to this recommendation?

[The information follows:]

Safety Recommendation A-84-123 addressed this problem. In a letter dated June 10, 1985, the FAA stated that the Administrator had been briefed on the FAA aviation behavioral technology plan on January 30, 1985. Further, that resources were being identified to initiate the selected projects. Included in the plan are a number of ongoing projects: pilot judgment training, study of color deficiency, crew fatigue, simulator fidelity, and voice systems. In addition, a glossary of aviation human factors terms and a human factors data base are being developed. The finalized plan was to be published before July 1, 1985. At that time, FAA was to be prepared to brief the Board on the status of the current projects and future initiatives.

The plan was not published by July 1, 1985, and still has not been published. FAA does not have a current target date for publication of the plan.

PASSENGER EVACUATIONS

Mr. **Lehman**. Under survival factors you refer to examining procedures used by the crew and passengers to ensure post accident survival.

Recently, there have been a number of aircraft incidents requiring passenger evacuation, including one in which the passengers apparently evacuated unnecessarily.

Have you investigated these situations? If so, what have you learned?

Mr. **Banks**. Mr. Chairman, the ones that you refer to, the latest one being with the L-1011 up in New York where the airplane was holding on the runway waiting for departure, and of course that's the time he was going to start up the number two engine.

We are finding that the passenger briefing is alerting the people to a greater extent of what some of the possibilities are. Of course, the problems we've been having with the engines on the aircraft, and the engine blowing up on the one over in England and the fire that followed up, this has certainly keyed up the interest of the passengers.

However, there are times when we feel that the more they know about it, sometimes they overreact. And of course, that's something we're trying to take a look at at the present time.

To be perfectly clear right now on the one in New York, there were several factors involved in that which we would be able to supply you for the record on that that caused them to react the way they did. First of all, it was at night, during darkness. There was a flame, they were not told what was happening exactly. The flight attendants were not in their positions where they should have been as far as the exit doors were concerned.

That's the kind of thing that precipitated it.

Mr. LEHMAN. I didn't know anybody ever listened to those flight attendants.

Mr. BANKS. You're probably right, Mr. Chairman. And that's one of the things that we're looking into, because if you're not aware of some of the things that they're talking about, and then something happens, you have to react on instinct.

Mr. BURNETT. And I think there's probably an underappreciation among the traveling public as to the training that flight attendants get. It's inadequate, and I think they ought to be better trained than they are, but they're far better trained than most passengers appreciate, I think.

And therefore, you have people who think that they're really on their own if they get into a crisis situation when they're not.

AIRCRAFT CABIN SAFETY

Mr. LEHMAN. Would you update for the record the actions taken by the FAA on your five cabin safety recommendations (A-81-139 through A-81-143)?

[The information follows:]

The FAA responded to Safety Recommendations A-81-139 through -143 on January 5, 1982. All five recommendations are being held as "Open—Unacceptable Action" as a result of that response. The Board is awaiting a further response. The actual text of the Administrator's January 5, 1982, response is: ". . . I am in the process of conducting a detailed technical review of each of the projects currently underway which deal with the substance of those recommendations. This review is being conducted as expeditiously as possible without glossing over the many important but subtle technical details involved. I will be happy to keep the Board informed of any significant progress made in these areas and expect to provide more specific details on my decision in each of these areas in the very near future."

TWO OPEN HIGHWAY RECOMMENDATIONS

Mr. LEHMAN. Would you also update for the record the status on recommendations H-83-25 and H-83-27, which were referred to on page 111 of last year's hearing record?

[The information follows:]

H-83-25.—Open—Unacceptable Action.
H-83-27.—Open—Acceptable Action.

BUREAU OF SAFETY PROGRAMS

Mr. LEHMAN. You are requesting 24 staff years and $1,510,000 for this bureau, which is two staff years less than your original fiscal year 1986 appropriation.

To what extent will this reduce the number of oversight safety studies you will conduct in fiscal year 1987?

Mr. BURNETT. One.

Mr. Lehman. You state that this bureau evaluates other agencies' safety programs. Have you conducted any such evaluations during the past year or two?

[The information follows:]

Yes, a number of the Board's recent Safety Studies evaluate various aspects of Federal, State, or industry safety programs. These would include the following:

Air Carrier Overwater Emergency Equipment and Procedures
Airport Certification and Operations
Deficiencies in Enforcement, Judicial, and Treatment Programs Related to Repeat Offender Drunk Drivers
Statistical Review of Alcohol-Involved Aviation Accidents
Automated Track Inspection Program

Upcoming studies on the performance of motor vehicle occupant restraint systems developed under NHTSA's Federal Motor Vehicle Safety Standards, and an examination of the training and licensing programs for truck drivers, administered by the Bureau of Motor Carrier Safety (FHWA) and various State and industry programs, would also be included.

RECOMMENDATION FOLLOWUP

Mr. Lehman. Last year you indicated that although you believed you had improved the quality of your accident follow-up, you hadn't had the reduction in recommendation closeouts that you would have liked to have had.

What has your situation been during the past year with respect to accident recommendation follow-up?

Mr. Sweedler. Actually, we've had a 52 percent increase in the number of recommendations that have been closed out through our follow-up activities, and we've had the most addressees of our recommendations—over 1,300—that we've ever had in the past.

And our main emphasis—we're not very satisfied with the total number of open recommendations, but we're trying to keep current with those recommendations that we have to make sure that we do keep acting on them to see if we can get resolution.

JT8D ENGINE

Mr. Lehman. What was the most significant safety recommendation made by this bureau during the past year?

[The information follows:]

During 1985, the Board made seven recommendations (A-85-53 through -56, A-85-120 through -121 and A-85-141) relative to the Pratt and Whitney JT8D engine. This is by far the most widely used engine in the U.S. air carrier fleet and is installed in such planes as the DC-9, the Boeing 727 and Boeing 737. As a result of the Saudi Airlines Boeing 737 accident at Doha Airport, Qatar, on May 11, 1985; the DC-9 accident at Milwaukee, Wisconsin, on September 6, 1985; a Northwest Orient Airlines incident on January 26, 1985; an Eastern Air Lines DC-9 incident at Tampa, Florida, on October 19, 1985; and a British Airtours Boeing 737 accident at Manchester, England on August 22, 1985, the Board made recommendations to preclude ruptures of low pressure turbine disks, fractures of high pressure compressor removable sleeve spacers, combination chamber cracking and disintegration, combustion chamber outer case cracking and rupture, failures of second stage fan blades and high and low pressure turbine blades and internal engine fires.

AVIATION ACCIDENT DATA BASE

Mr. Lehman. Last year it was indicated that there was still work to be done with the FAA regarding the development of a common aviation accident data base.

What have you accomplished in this area during the past year?

[The information follows:]

The NTSB/FAA common aviation accident data base is being developed by FAA as a subsystem of the Aviation Safety Analysis System (ASAS). A highly structured development cycle was planned and underway for this effort. A Requirements Specification document was developed under contract and delivered to the FAA in November, 1985.

While such a document may well be necessary to develop a complex system from scratch, late in 1985 it was agreed by senior staff of NTSB and FAA to shortcut the planned length development approach and to install the NTSB aviation accident data base on FAA computers in Oklahoma City.

The only change required of NTSB under such an approach would be the necessity to periodically update the information provided to the FAA. This could be done as simply as recording a magnetic tape each week containing information added or changed during the prior week. For its part, FAA will have to (functionally) duplicate NTSB's data base and develop software to allow them to easily access the data. While FAA personnel become familiar with using NTSB-type accident data, additional effort may go into streamlining the data updating process. Direct computer-to-computer transfer of updates on a nightly basis is a likely method of operation for the near future.

FLIGHT TIME HOURS

Mr. LEHMAN. Last year we also discussed your comments on a proposed FAA rule to lower the number of flight time hours required before qualifying for instrument rating.

What's the status of this rule?

[The information follows:]

This rule has been adopted, as of June 6, 1985.

Mr. LEHMAN. Would you indicate for the record any significant modifications to proposed safety rules made during the past year as a result of your comments, similar to the information provided on pages 123 and 124 of last year's hearing record?

[The information follows:]

It is impossible, of course, to isolate the factors which prompt any agency's rulemaking decisions. However, the following chart identified those Department of Transportation rulemaking actions concluded in 1985 on which the Safety Board believes it had an impact. Some rules were proposed and adopted at the Board's prompting, while others were modified or withdrawn because of Board concerns.

Agency/Docket No.	Subject	NTSB Comment and Agency Response
FRA RSOR-6	Control of Alcohol and Drug Use in Railroad Operations	This major rulemaking responded to Safety Board recommendation R-83-30 thru 32. Although the Board believed certain sections of the regulation could have been strengthened, it concluded that the final rule was an acceptable action.
NHTSA Dkt. 84-12	FMVSS 108: Lamps, Reflective Devices, and Associated Equipment (emergency flashers)	The Board recommended that a controlled fleet study on the effects of various truck lighting schemes be undertaken before any final rule is adopted. The rulemaking was terminated.
FAA Dkt. 23634	Flight Time Limitations and Rest Requirements	The Board strongly supported FAA's efforts to simplify and update these rules, but expressed reservations about certain proposed changes. NTSB objected to providing less restrictive limits for certain regional air carrier operations; in the final rule all air carriers were subjected to the same restrictions.

RSPA HM 180	Placarding of Empty Tank Cars	The proposed rule was generally responsive to Safety Board recommendations that the maximum quantity of a hazardous material remaining in a tank car permitted in a tank car placarded "empty" be specifically defined and requiring that shippers show on shipping papers the approximate weight of the residue in "empty" tank cars.
RSPA HM 196	Packaging and Placarding Requirements for Liquids Toxic by Inhallation	This proposal to require special packaging and more stringent placarding requirements was prompted in large part by Safety Board recommendations made following the Bhopal, India accident. Although the final rule did not satisfactorily address NTSB comments on the NPRM, it is a significant start toward addressing the problems of toxic hazards which had not previously been addressed by DOT regulations.

In addition, FAA has promulgated numerous technical rules in response to Safety Board recommendations. Among those which were finalized in 1985 were the following Airworthiness Directives:

Docket Number	Subject
84-CE-19	Cessna 200 Series (fuel selector valve installation
84-CE-26	Beech 65, 90 and 100 Series (cabin windows)
84-CE-27	Piper (various models) (brake operation warning placard)
84-CE-31	Beech (various models) (fuel selector valve handle)

84-CE-32	Cessna 200 Series (engine controls installation)
84-CE-33	Fairchild SA226 Series (hydraulic and oxygen system modifications)
84-CE-5	Cessna 200 Series Airplanes (induction airbox assembly)
84-CE-19	Beech (various models) (wing attachment joints)

FHWA RULEMAKING

Mr. **Lehman**. Last year it was indicated that you had requested the Federal Highway Administration (FHWA-84-18) to thoroughly evaluate the stinger-steered hitch to determine safety implications.

Would you indicate for the record actions taken by FHWA and your view as to the adequacy of these actions?

[The information follows:]

On October 2, 1984, the Federal Highway Administration (FHWA) published an Advance Notice of Proposed Rulemaking which raised the possibility of authorizing the use of much longer vehicles as automobile transporters. This was to be accomplished with the use of "stinger-steered" truck trailer combinations which would reduce some of the maneuverability problems of these larger vehicles. The Safety Board's comments to this ANPRM raised concerns regarding the susceptibility of these vehicles to jackknifing and urged that FHWA not change the rules until a thorough safety evaluation has been made. On November 25, 1985, FHWA published a Notice of Proposed Rulemaking which proposes to retain "stinger-steered" unit provisions.

In its commentary on the proposed rule, FHWA said:

Information available does not suggest any safety problems with the stinger-steered unit, which industry notes makes up a substantial portion of the auto transporter fleet. The braking, acceleration, gradability and handling is considered to be equivalent to that of other STAA vehicles. Nevertheless FHWA is, by contract, having the jackknife/skidding potential of this combination studied. Results of this study will be available to consider along with the comments to this docket.

The Safety Board has not seen the study for which FHWA has contracted, and therefore cannot comment on its adequacy.

RULEMAKING COMMENTS

Mr. **Lehman**. Would you update for the record the listing of rulemaking comments included on pages 126 through 129 of last year's hearing record?

[The information follows:]

AVIATION

REFERENCE NUMBER	SUBJECT	THE BOARD
FAA-85-CE-5-AD	Cessna 206, P206, U206, 207 and 210 Series Airplanes	(4/5/85) Concurred in the proposed inspection, repair and/or modification of the engine induction airbox installation.
[illegible]	Flight Recorders and Cockpit Voice Recorders	(4/9/85) Strongly supported actions to upgrade the requirements for flight recorders on airplanes operating under 14 CFR 121 and 14 CFR 135. However, the Board also noted that the proposed rule did not entirely satisfy the intent of prior Board recommendations and was not consistent with recently adopted ICAO standards. The Board noted at least five shortcomings in the proposal: (1) The parameters required on expanded-parameter digital flight rewiders in the future would be the same as those currently required; (2) The requirement for an expanded, limited parameter recorded should be expedited; (3) The rule should require that new aircraft be evaluated during the certification process to define unique flight recorder requirements; (4) Aircraft operating under 14 CFR 135 should be required to have both cockpit voice recorders and flight data recorders; (5) The rule does not address requirements for other segments of aviation.
FAA-84-NM-128-AD and FAA-84-NM-129-AD	AD--McDonnell Douglas Model DC-9, C-9 (Military) and DC-10 Series Airplanes	(4/5/85) Supported proposals to improve the fire containment capability of lavatory waste containers as consistent with prior NTSB recommendations.

FAA-84-ANE-24-AD	AD--Hartzell (), HC () (X,V) Series Propellers	(5/14/85) Supported the proposal to require inspection or replacement of certain propeller blade clamp assemblies.
FAA-23815	Shoulder Harness Installation in Normal Utility and Acrobatic Category Airplanes	(6/20/85) Was pleased that this rulemaking to require shoulder harnesses in general aviation, utility and acrobatic airplanes had been proposed.
FAA-24636	Transponder-On Operation	(6/26/85) Strongly supported the proposal to require that all aircraft equipped with an operable radar beacon transponder have the transponder turned on while in the National Airspace System.
FAA-85-CE-11-AD	AD-- Fairchild SA226-T, SA-226AT, SA226-T(B), SA226-TC, SA227-AC, SA227-AT and	(6/26/85) Strongly supported the proposal to require additional inspection and recalibration of certain components critical to the Stall Avoidance System.
FAA-21369	Emergency Medical Equipment	(7/9/85) Supported the proposal require that emergency medical equipment be carried on commercial flights and that its use be reported for two years after implementation of the rule.
FAA-TSO-C111	General Aviation Flight Data Recorder	(7/12/85) Enclosed the proposed TSO on general aviation flight recorders with one reservation: the TSO fails to include in its parameter list for fixed-wing aircraft the parameters of longitudinal acceleration stabilizer/trim tab position and pitch control position.

FAA-24494	Airworthiness Standards; Crash Resistant Fuel Systems	(7/22/85) Expressed a belief that at least a four per cent reduction in fatalities and six percent reduction in serious injuries could be realized with improved crash-resistant fuel systems. Also expressed a belief that fuel systems should be designed so that the locations of the breaks and separations are dictated by design to minimize fuel spillage.
FAA-85-CE-19-AD	AD--Beech 34,50,65, 70,90,99,100 and 200 Series Airplanes	(7/23/85) Concurred in the proposal to require inspection and coating every five years of the nut and tension bolt in certain wing attachment joints and annual injections of a corrosion preventive compound into joints which contain barrel nuts, but expressed a belief that the proposal should apply to both steel bolts and Inconel bolts.
FAA-21956	Use of Alcohol or Drugs and Submission to Alcohol Tests	(7/29/85) Expressed two problems with the proposed rule which present serious impediments to its effectiveness. First, the proposal depends upon state and local police having authority to require a suspected intoxicated pilot to submit to a chemical test for intoxication. However, a preliminary Safety Board survey of State statutes found as few as four states with laws authorizing police with cause to request a pilot to submit to a chemical test. Second, the proposal lacks a comprehensive nationwide system to enable state and local authorities to notify FAA of an offense. Instead of the proposed rule, the Board expressed a preference for a federal implied consent rule authorizing federal inspectors to order chemical tests.

FAA-85-NM-56-AD	AD--DC-9 and C-9 (Military Series Airplanes)	(8/12/85) Strongly supported proposal to eliminate a potential fire ignition source from improperly routed generator power feeder cables.
FAA-85-CE-25-AD	AD-Mooney Aircraft Models M20B, M20C, M20D, M20E, M20F, M20J, M20K and M22 Airplanes	(8/20/85) Concurred in the proposed required inspection of fuel tanks and fuel filler cap assemblies in order to prevent water contamination.
FAA-85-ANE-16-AD	AD--Pratt & Whitney JT9D-3A, -7, -7H, -7A, -7AH, -7F, -7J and -20 Series Engines	(8/30/85) Strongly urged that this rulemaking be expedited so that an inspection program to assure timely detection of cracks in diffuser case rear rails is established in order to prevent diffuser case rupture and an uncontrolled engine failure.
FAA-24594	Improved Flammability Standards for Materials Used in the Interiors of Transport Category Airplane Cabins	(9/10/85) Urged that FAA have an independent group, such as the Center for Fire Research at the National Bureau of Standards review recent test results which formed the basis for this revised rulemaking proposal and to determine the validity of the selected test procedures. Expressed belief that flammability standards must be clear and able to achieve their intended purpose. Urged FAA to place a high priority on drafting a final rule.
FAA-TSO-C13e	TSO-Life Preservers	(10/2/85) Supported proposal to require more stringent minimum performance standards for these life preservers. Suggested that the donning test be performed without benefit of a demonstration or use of a briefing card. Urged that specific minimum performance standards for infant flotation devices be adopted and that devices be available on air carrier aircraft. Recommended

		that operating rules be amended to require the use of life preservers within a specific period of time and to require a specific number of infant devices aboard aircraft used in overwater or extended overwater operations.
FAA-24397	Flight and Duty Time Regulations	(10/9/85) Supported the principle underlying petitions to provide flight and duty time limitations for flight attendants to ensure they have adequate rest. Urged FAA to initiate rulemaking as soon as practicable.
FAA-85-CE-27-AD	AD--Empresa Brasileria De Aeronautica S.A. (Embraer) Models EMB-110P1 and EMB-110P2 Airplanes	(10/22/85) Strongly urged that FAA expedite rulemaking on this proposal to require various inspections and modifications to preclude excessive vibrations or jamming in the elevator, aileron and/or rudder.
FAA-24706	Maximum Blood Alcohol Level of 0.00 percent	(10/28/85) Supported the IIHS petition asking that the maximum allowable blood alcohol content for persons serving as crew members be set at 0.00 percent. Reiterated Board position that a blood alcohol level of zero is the only acceptable level that is consistent with the safe operation of an aircraft.
FAA-85-CE-29-AD	AD--Mooney Models M20, and M20A Airplanes	(12/3/85) Concurred with the ultimate intent of the proposal to require more detailed repetitive inspection and proofload testing of the wooden primary structure. Noted that if the related maintenance, inspection and repair of these airplanes is performed only by personnel extremely experienced in wood aircraft inspection and repair, the effect will be to reduce the occurrence of airframe failure accident involving these airplanes.

FAA-24695	Certification of Student Recreational, Student Private and Private Pilots	(10/24/85) Urged that those portions of the proposal establishing student recreational and recreational pilot certifications not be adopted, noting significant safety issues which had not been addressed, including:: (1) lack of a requirement that applicants be able to read, speak and understand English; (2) unenforceability of the geographic restriction of 50 miles from the departure airport; (3) unenforceability of medical self-certification. However, the Board did support those portions of the proposed rule that would require training and testing to a standard and those portions which specify annual training and flight review requirements. The Board also recommended a combination of minimum flight hours and numbers of flights be required for private pilot certification.

HAZARDOUS MATERIALS

MTH-HM-198	Packaging and Placarding requirements for Liquids Toxic by Inhallation	(3/27/85) Expressed pleasure at prompt action to address limitations of the present hazard identification and classification system, but noted that the NPRM addressed only some of the issues which had been raised by the Board. Among the specific concerns were: Omission of toxic gaseous and solid materials; postponment of consideration of certain liquids; integration of toxic identification and classification of poisons; lack of a scientific basis for the proposed toxic standard; the exemption process.

MARINE

CGD-83-005	Sailing School Vessel Regulations	(2/22/85) Opposed proposal provision for excursion parties on sailing school vessels because they would not be required to meet the higher levels of safety of passenger vessels. Suggested that proposed rules be revised to include a specific regulation prohibiting the use of alcoholic beverages. Was pleased that the Coast Guard is still studying the need for minimum age and physical qualifications for sailing school students.
CGD-84-022	Bridge Lighting and Other Signals	Supported this effort to improve revised and improve bridge lighting and marking, but objected to the attempt to utilize the bridge as a platform for mounting navigational aids to accommodate the standard lateral system. Strong reservations were expressed about intermixing the lateral system of navigational aids with the standard marking of bridges.

HIGHWAY

NHTSA-74-14 (Notice 37)	Occupant Crash Protection	(6/14/85) Expressed concern regarding the locking latchplate (D-ring) which is mentioned as being capable of fulfilling the requirement for a locking means to permit secure restraint of child restraint devices during crash avoidance maneuvers and which might permit too much slack in the lap portion of the system. The Board also objected to changes in the current rules on testing belts equipped window shade - type tension relieving devices, noting that many drivers do not know how to use this system correctly. As a result, it is possible to inadvertently introduce excessive slack in the belts. Therefore, the Board urged that these devices be tested with the windowshade adjusted for the maximum slack permitted by the system.
NHTSA-74-14 (Notice 38)	Occupant Crash Protection	(6/14/85) Strongly supported dynamic testing of manual seat belt systems in the front outboard seating positions, and especially those devices that include windowshade devices. Opposed the proposal exempt convertible cars from automatic crash protection requirements. Disagreed with the proposal to eliminate the oblique crash test requirements of FMVSS 208.
NHTSA-74-09	Child Restraint Systems	(8/15/85) Strongly supported the proposal to require that child safety seats be required to meet the requirements of FMVSS 213 without a tether strap attached.

RAILROAD

FRA-RSSI-84-3	Special Safety Inquiry: Railroad-Highway Grade Crossing Safety	(1/23/85) Reiterated belief that grade crossing accidents ought to be among those transportation accidents most easily eliminated, and support for "Operation Lifesaver". Described two Safety Board initiatives planned for 1985. Described a number of specific areas of concern related to grade crossing accidents.
FRA-RSSI-85-1	Special Safety Inquiry: Railroad Power Brakes	(10/22/85) Expressed concern that carriers may not be carrying out brake inspections in conformity with regulations and reiterated its comments to a previous rulemaking proposal which resulted in revised regulations for brakes.

BUREAU OF ADMINISTRATION

Mr. **Lehman**. Turn to the bureau of administration.

You are requesting 30 staff years and $1,432,000 for this bureau. This is 3 staff years less than your originally approved fiscal year 1986 level and 2 staff years below your revised fiscal year 1986 level.

In which offices will these reductions be made?

Mr. **Levins**. The reductions will be made in the public inquiry section, and we hope to be able to provide the support through outside contracting and maintain our same level of support to the public that we're now providing.

Also, we hope to absorb the reductions through administrative changes such as automating the tracking system for correspondence to help improve the productivity of this office.

Mr. **Lehman**. Would you indicate for the record how your personnel are currently divided among the various offices in this bureau and how you intend to divide them under your fiscal year 1987 budget request?

[The information follows:]

Office	Filled positions Feb. 28, 1986	Fiscal year 1987 estimate	Change
Director	4	4	0
Comptroller	8	8	0
Personnel and training	5	5	0
Operations and facilities	11	9	−2
Information management	4	4	0
Total	32	30	−2

PROGRAM AUDITS

Mr. **Lehman**. You indicate under financial management (p. 5) that you conduct financial and program audits of NTSB functions.

Have you conducted any such audits during the past year? If so, what were the result of these audits?

[The information follows:]

The Safety Board has an established audit program and internal audit directive. However, due to limited resources no full scale audits were performed in fiscal year 1985.

However, the Board has conducted six internal control reviews of the financial management area, in conjunction with the Federal Managers' Financial Integrity Act of 1982. These reviews provide management with assurances that funds and resources are accountable and no waste, fraud or abuse exists.

The internal control reviews conducted in the financial management area were:

1. Payment of Vendor Invoices and Use of SF-44s.
2. Rental of Commercial/GSA Vehicles.
3. Use of "Frequent Flyer" Bonus Programs.
4. Subscriptions of Periodicals.
5. Authorization for Printing, Photographic and Graphic Services.
6. Use of SF-160, Access to Aircraft, and Government Travel Requests.

Also, eight additional internal control reviews were conducted on NTSB non-financial areas. The results of each internal control review was fully documented and recommendations to improve efficiency or cost savings provided in each report have been adopted. Since the Safety Board is a small, centralized organization, changes to procedures or implementation of new policies are easier and more timely than larger agencies.

TRAINING PROGRAM

Mr. **Lehman**. What are the major elements of your current year's training program and what are you planning for fiscal year 1987?

Mr. **Kissinger**. The major element is our school at Oklahoma City. What we're hoping to do starting in this year and expanding into 1987, is expand into the railroad and the highway areas.

Mr. **Lehman**. Is that the same location where you send the air traffic controllers?

Mr. **Kissinger**. Yes, it is.

Mr. **Lehman**. What's the name of the school?

Mr. **Kissinger**. It's the NTSB Accident Investigation School, which is located at the Transportation Safety Institute Center at Oklahoma City, at the Mike Monroney Aeronautical Center.

Mr. **Lehman**. For fiscal years 1985 and 1986 to date, would you provide for the record a list of training courses attended by your technical (investigative) staff, including attendees, positions, locations of courses, cost and time?

[The information follows:]

TRAINING ATTENDED BY TECHNICAL STAFF -- FY 1985

Attendee's Title/Training Course	Number	Training Vendor/Location	Estimated Ave. Cost	Hours
Air Safety Investigator				
Air Carrier Operations Indoctrination	1	Federal Aviatn Admin. Academy, OK City, OK.	$1,474	60
Familiarization With the Twin-Otter	1	De Havillnd Aircrft of Canada, Downsvw, Ont.	$300	40
Survival Factors Training	3	NTSB In-House Training, Washington, D.C.	$0	24
Crash Survival Investigation	1	Intl Center for Safety Education, Arizona	$2,325	67
Pilot Familiarization	1	Garrett Technical Training Center, Arizona	$375	24
Piper Aviation Course	1	Piper Aircraft Corp., Florida	$204	20
The Human In Aviation Safety	1	Ohio State University, Ohio	$495	28
Basic Management Techniques	1	Office of Personnel Management, Wash., D.C.	$315	40
Aviation Accident Investigation	1	NTSB Accident Invest. School, OK City, OK.	$1,240	80
Railroad Investigator				
Survival Factors Training	3	NTSB In-House Training, Washington, D.C.	$0	24
Track Foreman's Training Program	1	Correspondence	$216	48
Hazardous Materials Training	1	Transp. Safety Institute, Denver, CO.	$0	40
Highway Investigator				
Advanced Traffic Accident Investigation	1	Univ. of North Florida, Jacksonville, FLA.	$1,348	24
Survival Factors Training	1	NTSB In-House Training, Washington, D.C.	$250	32
BMCS Commercial Carrier Safety Inspect.	3	Fairfax County Police Dept., Fairfax, VA.	$0	40
Hazardous Materials Investigator				
Executive Leadership	1	Office of Personnel Management, Wash., D.C.	$400	24
Marine Investigator				
Maritime Training & Research	1	Maritime Training & Research Center, Ohio	$580	24
Human Performance Investigator				
Aviation Accident Investigation	2	NTSB Accident Invest. School, OK City, OK.		
Technical Supervisor				
Contemporary Executive Development	3	George Washington Univ., Washington, D.C.	$2,000	90
Private Pilot Ground School	1	Johnson Cnty Comm. College, Kansas City, MO.	$95	10
Program for Senior Executive Fellows	1	Harvard University, Cambridge, MA.	$15,650	548
Executive Development	1	Office of Personnel Management, Wash., D.C.	$240	16
Microcomputer Training	1	MACOM Information Systems, Rockville, MD.	$575	32
Helping People Improve	1	Fred Pryor Seminars, Inc., Arlington, VA.	$165	8
Survival Factors Training	1	NTSB In-House Training, Washington, D.C.	$0	24
Implementing Strategy	1	The Wharton School, Philadelphia, PA.	$0	40
Management of Managers	1	University of Michigan, An Arbor, MI.	$0	40
Workshp for Better Job Performance	1	Univ. of Southern California, Arlington, VA.	$37	8
Modern Management and Supervision II	1	USDA Graduate School, Washington, D.C.	$345	40

TRAINING ATTENDED BY TECHNICAL STAFF — FY 1985

Attendee's Title/Training Course	Number	Training Vendor/Location	Estimated Ave. Cost	Hours
Fire Science Specialist				
Aviation Accident Investigation	1	NTSB Accident Invest. School, OK City, OK.	$1,240	80
Engineer				
Survival Factors Training	4	NTSB In-House Training, Washington, D.C.	$0	24
Principles of Systems Safety Management	1	Univ. of Southern California, Arlington, VA.	$911	48
Functions & Concepts of Safety Mgmt	1	Univ. of Southern California, Arlington, VA.	$926	48
Investigation of Accidents	1	Univ. of Southern California, Arlington, VA.	$914	48
Boeing 767 Ground School	1	United Airlines, Denver, CO.	$470	40
Aerospace Pathology	1	Armed Forces Inst. of Pathology, Wash., D.C.	$0	24
Advanced Accident Investigation	1	Univ. of North Florida, Jacksonville, FLA.	$1,350	80
Traffic Accident Reconstruction	2	Univ. of North Florida, Jacksonville, FLA.	$739	24
FORTRAN Language for DEC PDP & VAX	2	Digital Equipment Corp., Landover, MD.	$25	40
Aviation Accident Investigation	3	NTSB Accident Invest. School, OK City, OK.	$1,240	80
DC-10 Performance Engineers Course	1	Douglas Aircraft Co., California	$800	80
Principles of System Safety Management	1	Univ. of Southern California, Arlington, VA.	$911	48
Systems Safety Engineering	1	Univ. of Southern California, Arlington, VA.	$936	45
Structural Safety and Failure Analysis	1	Univ. of Southern California, Arlington, VA.	$885	48
Aircraft Fire & Explosion Investigation	1	Intl Center for Safety Education, Tempe, AZ.	$1,425	40
Microcomputer Training	1	NACOM Information Systems, Rockville, MD.	$575	32
Electronic Flight Instrument Systems	1	Bendix, Collins, Sperry Corp., Wichita, KS.	$450	32
Transportation Safety Specialist				
Survival Factors Training	3	NTSB In-House Training, Washington, D.C.	$0	24
Microcomputer Training	1	NACOM Information Systems, Rockville, MD.	$575	32
Marine Accident Investigation	1	Marine Training & Research Center, Ohio	$900	32
Aviation Accident Investigation	3	NTSB Accident Invest. School, OK City, OK.	$1,240	80
Letterwriting Workshop	1	USDA Graduate School, Washington, D.C.	$225	18
Basic Concepts of Data Processing	1	USDA Graduate School, Washington, D.C.	$350	40
Structured Programming Techniques	1	USDA Graduate School, Washington, D.C.	$225	21
Accident Investigator-Survival Factors				
Flight Attendant Recurrent Training	1	World Airways, Inc., Oakland, CA.	$470	10
Aviation Accident Investigation	1	NTSB Accident Invest. School, OK City, OK.	$1,240	80
Metallurgist				
FORTRAN Language for DEC PDP & VAX	1	Digital Equipment Corp., Landover, MD.	$25	40
Aviation Accident Investigation	1	NTSB Accident Invest. School, OK City, OK.	$1,240	80
Fiber Composites	1	Univ. of Southern California, Arlington, VA.	$1,705	40
Aviation Accident Data Specialist				
Novice User System 1022	1	Information Consultants, Washington, D.C.	$390	16

TRAINING ATTENDED BY TECHNICAL STAFF -- FY 1986

Attendee's Title/Training Course	Number	Training Vendor/Location	Estimated Ave. Cost	Hours
Air Safety Investigator				
Advanced Microcomputer Training	1	MACOM Information Systems, Rockville, MD.	$262	24
Airborne Weather Radar	1	United Airlines-Denver, Colorado	$675	8
Legal Aspects of Aviation Safety	1	Univ. of Southern Cal., Los Angeles, CA.	$645	16
Performance Characteristics of Biplanes	1	First Coast Flight Cntr, St. Augustine, FLA.	$1,406	40
Railroad Investigator				
Technical Writing	1	Office of Personnel Management, Denver, CO.	$250	32
Highway Investigator				
Advanced Traffic Accident Investigation	2	Univ. of North Florida, Jacksonville, FLA.	$1,580	11
Technical Writing	1	Office of Personnel Management, Denver, CO.	$250	32
Effective Report Writing	1	Management Concepts, Inc., Vienna, VA.	$275	24
At-Scene Traffic Accident Investigation	1	Correspondence	$375	N/A
Effective English Workshop	1	Office of Personnel Management, Denver, CO.	$250	32
At-Scene Traffic Accident Investigation	1	Univ. of North Florida, Jacksonville, FLA.	$1,444	80
Technical Supervisor				
Managing People	1	Keye Productivity Center, Kansas City, MO.	$96	8
Contemporary Executive Development	1	George Washington Univ., Washington, D.C.	$2,000	58
Engineer				
Boeing 757 Airframe & Systems Training	1	Delta Airlines, Atlanta, GA.	$450	40
Environmental Safety	1	Univ. of Southern California, Arlington, VA.	$957	40
Fundamentals & Concepts of Safety Mgmt	1	Univ. of Southern California, Arlington, VA.	$957	42
Principles of Engineering-Review	1	Engineering Revw Progrm of Greatr Washington	$375	62
Aviation Accident Investigation	1	NTSB Accident Invest. School, OK City, OK.	$1,215	80
Transportation Safety Specialist				
Aviation Accident Investigation	3	NTSB Accident Invest. School, OK City, OK.	$1,215	80
Aircraft Crash & Rescue	3	University Of Maryland, College Park, MD.	$184	14
Briefing Techniques	1	USDA Graduate School, Washington, D.C.	$225	24
Technical Writing	1	USDA Graduate School, Washington, D.C.	$225	18
Typewriting I	1	USDA Graduate School, Washington, D.C.	$225	24
Report Writing	1	USDA Graduate School, Washington, D.C.	$245	27
Advanced Microcomputer Training	1	MACOM Information Systems, Rockville, MD.	$262	24
At-Scene Traffic Accident/Homicide Inv.	1	Univ. of North Florida, Jacksonville, FLA.	$1,695	96
FORTRAN Programming Language	1	USDA Graduate School, Washington, D.C.	$550	80
Engineering Applications Programmer				
FORTRAN Language for DEC PDP & VAX	1	Digital Equipment Corporation, Landover, MD.	$1,170	40

TRAINING ATTENDED BY TECHNICAL STAFF — FY 1986

Attendee's Title/Training Course	Number	Training Vendor/Location	Estimated Ave. Cost	Hours
Senior Transportation Data Analyst				
System 1022 Applications: FORTRAN/COBOL	1	Software House, Cambridge, Mass.	$197	8
Human Performance Investigator				
Aviation Accident Investigation	2	NTSB Accident Invest. School, OK City, OK.	$1,215	80
Introduction to Maritime Training	1	Maritime Training & Resrch Cntr, Toledo, OH.	$635	24
Transportation Safety Program Specialist				
Contemporary Executive Development	1	George Washington Univ., Washington, D.C.	$2,000	58
Program for Senior Executive Fellows	1	Harvard University, Cambridge, Massachusetts	$17,750	
Meteorologist				
Airborne Weather Radar	1	United Airlines, Denver, Colorado	$675	8
Physical Science Technician				
Training School for X-Ray Analyzer	1	TRACOR Northern, Middleton, Wisconsin	$870	40

CONFERENCES AND SYMPOSIA

Mr. **Lehman**. Would you provide similar information for the record regarding conferences and seminars?

[The information follows:]

CONFERENCES/SEMINARS ATTENDED BY TECHNICAL STAFF -- FY 1985

Attendee's Title/Conference	Number	Conference Vendor/Location	Estimated Ave. Cost	Hours
Air Safety Investigator				
SAE Intl. Fuels & Lubricants Meeting	1	Soc. of Automotive Engineers, Baltimore, MD.	$0	32
Mid-Air Symposium	1	Intl Soc. of Air Safty Investig., S. F., CA.	$603	8
End Users Forum	1	Intl OMEGA Assoc, Brighton, England	$737	40
Gen Aviation Aircraft Meeting & Exp.	1	Soc. of Automotive Engineers, Denver, CO.	$300	28
Highway Accident Investigator				
SAE Passenger Car Meeting	2	Soc. of Automotive Engineers, Dearborn, MI.	$130	8
Transportation Safety Specialist				
Pan Am. Railway Congress & Exposition	1	Pan American Railway Congress, Arlington, VA	$300	24
Human Factors In Transportation	2	Transportation Research Board, Wash., D.C.	$75	8
Metallurgist				
Intl Conf on Post Analysis of Composite	2	Universal Tech. Corp, Dayton, Ohio	$559	24
Naval Architect				
Annual Meeting-Naval Arch/Marine Engin.	1	Society of Naval Architects, New York, N.Y.	$475	24
Technical Supervisor				
How To Supervise People	1	Natl Seminars Inc, Wash., D.C.	$49	8
A Management Workshop	1	Univ. of Southern California, Arlington, VA.	$35	8
Engineer				
Kinesic Interviewing Techn. Workshop	1	Natl Assoc. of Fed. Invest., Wash., D.C.	$198	24

CONFERENCES/SEMINARS ATTENDED BY TECHNICAL STAFF -- FY 1986

Attendee's Title/Conference	Number	Conference Vendor/Location	Estimated Ave. Cost	Hours
Air Safety Investigator				
Aviation Seminar	1	Southn. Methodist Univ., Dallas, TX.	$584	24
Professional Aviation Maintenance	1	Prof. Aviatn Maintenance Assoc., Houston, TX	$300	24
Hazardous Materials Investigator				
Recent Adv. in Haz Mat Transportation	2	Transp. Research Board, Lake Buena Vista, FL	$728	24
Naval Architect				
Annual Meeting-Naval Arch/Marine Engin.	1	Society of Naval Architects, New York, N.Y.	$595	24
Metallurgist				
Intl Conference on Exposition & Fatigue	1	American Soc. for Metals, Salt Lake City, UT	$1,197	36
Western Metal & Tool Conference	1	American Soc. for Metals, Los Angeles, CA.	$1,046	32
Human Performance Investigator				
SAE International Congress	1	Soc. of Automotive Engineers, Dearborn, MI.	$653	32

PROCUREMENT PROGRAM

Mr. LEHMAN. On page 54, what is the status of your automated procurement and correspondence tracking systems and what savings or efficiencies do you expect to result from these systems?

[The information follows:]

The goal for automating the Board's procurement system is to reduce paperwork and improve timeliness of procurement requests. We envisioned that this will eventually be accomplished through an automated system of online requisitions, purchase orders, contracts, etc. in which the information is contained in a central data base and hard copies are generated by the computer when necessary. The information would also be down loaded to the Board's automated accounting system to automatically generate obligations. To date, the Board has established a data base of all contracts, purchase orders, and agreements which is readily accessible. We can also merge this information with our automated accounting data for reports, etc. This program enhancement will allow us to keep abreast of the workload in this area, as we have only one procurement/contract specialist.

The Board receives approximately 3,000 requests for accident file information each year and our goal is to automate the response to these requests. This system will eventually maintain an automated file of each request and match the requestor to the accident file when it is completed. The system will also generate letters to inform requestors when a report is expected to be delayed and when they can expect it in the future. This improvement will allow us to absorb part of the personnel reductions projected in this area.

PERSONNEL INFORMATION SYSTEMS

Mr. LEHMAN. Last year it was indicated that by mid-fiscal year 1986, you expected to have all your personnel information systems consolidated. What is the status of this effort?

[The information follows:]

The project consists of consolidating the information contained in all the Board's personnel systems in order to provide immediate access to the latest personnel, salary and FTE data for decisionmaking. The design work for this system has been completed in-house and we are now awaiting the actual programming which is being performed by an outside contractor. We expect complete implementation by the end of this fiscal year.

RAILROAD ACCIDENT DATA BASE

Mr. LEHMAN. What modifications are you planning to make to your railroad accident data base?

[The information follows:]

We are actually making two modifications to the railroad data base. First, we are standardizing the accident data collection forms by aligning the information blocks with our aircraft accident investigation forms. This will allow both standardization and simplification of the software programs being developed for our microprocessors. This will result in a dollar savings in the developmental costs and reduce the time needed for training the forms inputted. Additional savings will be realized in reduced time needed to get the factual report to the public.

The second modification is the number and type of data blocks that can be entered into the computer for analysis. These data points will more than triple in the new system.

Because of the improved forms, the adaptability to our microprocessor and the ease of forms used by our investigators, we feel these reports will be completed within six months, and the results of our statistical analyses will be available shortly after the year ends.

Our target date for completion of the forms' design is June 1, 1986, and the field test will be completed prior to the beginning of FY 1987.

ADMINISTRATIVE LAW JUDGES

Mr. **Lehman**. Turn to your office of administrative law judges. You are requesting 5 staff years for this office, which is a reduction of one from fiscal year 1986 and four from fiscal year 1985.

Last year, you had a backlog of 278 appeals cases as of March 1, 1985.

What is your present backlog and what impact is the reduction of personnel having on your backlog?

[The information follows:]

Our present backlog of cases in the Office of Administrative Law Judges is 256. However, our estimate is that the backlog will rise to 287 by the end of FY 1986 as a result of the Gramm-Rudman-Hollings sequestering of funds, and that it will jump to 437 by the end of FY 1987 as a result of the across-the-board reduction in staff which will be required at that budget level. That reduction will translate in the Office of Administrative Law Judges to one less judge, thus reducing hearings held by 20% and total cases closed by 8%, causing the backlog to rise by 52% (most of which will be cases requiring hearings). As previously mentioned we have already reassigned one clerical position out of the Office of Administrative Law Judges to a higher priority vacancy in response to the need to reduce staff levels required under Gramm-Rudman sequestration in FY 1986.

DISPOSITION OF APPEALS

Mr. **Lehman**. Would you update for the record the table on disposition of appeals to the full Safety Board which was included on page 132 of last year's hearing record?

[The information follows:]

DISPOSITION OF CASES APPEALED TO THE FULL BOARD

Cases	1982	1983	1984	1985	1986 [1]
Appealed	95	87	123	135	78
Affirmed	67	40	53	48	28
Dismissed	38	24	39	41	16
Modified	11	1	8	9	13
Remanded	5	7	2	3	5
Reversed	2	10	9	10	4

[1] October 1, 1985 through February 28, 1986.

DISPOSITION OF CASES

Mr. **Lehman**. Would you update for the record the table on disposition of cases which was included on page 132 of last year's hearing?

[The information follows:]

DISPOSITION OF THE FEDERAL AVIATION ADMINISTRATION'S ORDERS BY THE SAFETY BOARD ADMINISTRATIVE JUDGES

Fiscal year	Affirmed	Modified	Reversed
1982	126	57	36
1983	95	40	33
1984	128	70	23
1985	112	73	28
1986 [1]	56	41	7

[1] October 1, 1985 through February 28, 1986.

Mr. Lehman. I want to thank you all for being here today. I'm sorry to keep you here overtime. Keep on top of those agencies.

Mr. Burnett. Thank you, Mr. Chairman.

Mr. Lehman. I'm depending on you.

The hearing is adjourned.

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WEDNESDAY, APRIL 16, 1986.

FEDERAL AVIATION ADMINISTRATION

WITNESSES

GENERAL ACCOUNTING OFFICE

HERBERT R. McLURE, ASSOCIATE DIRECTOR, TRANSPORTATION, RESOURCES, COMMUNITY AND ECONOMIC DEVELOPMENT DIVISION

DR. CARL PALMER, ASSOCIATE DIRECTOR, DEFENSE AND AERONAUTICS MISSION SYSTEMS, INFORMATION MANAGEMENT AND TECHNOLOGY DIVISION

CHARLES COTTON, GROUP DIRECTOR, FAA TRANSPORTATION GROUP, RECD

ALLEN LI, GROUP DIRECTOR, DEFENSE AND AERONAUTICS MISSION SYSTEMS GROUP, IMTEC

CHAIRMAN'S OPENING REMARKS

Mr. LEHMAN. The Committee will come to order.

This morning we will begin our hearings on the fiscal year 1987 budget request of the Federal Aviation Administration.

At the request of the Committee, the General Accounting Office has been reviewing a number of the programs and activities of the FAA for several years. These reviews have included analyses of air traffic controller staffing, aviation safety inspection activities, the host computer, the advanced automation system and other elements of the national airspace system plan. I believe these reviews have provided this Committee, other Committees, and the Congress, in general, with valuable information.

This morning we are pleased to have Mr. Herb McLure, Associate Director, Resources, Community, and Economic Division, and Dr. Carl Palmer, Associate Director, Information Management and Technology Division to summarize the results of GAO's work to date.

We have a vote on now, gentlemen. I think we might as well go ahead and vote and come on back, so we will not break the continuity, and as soon as we get back, we will hear from Mr. McLure, and then from Dr. Palmer.

[Vote recess.]

Mr. LEHMAN. Mr. McLure, you may proceed.

GENERAL STATEMENT—MR. McLURE

Mr. McLURE. Thank you, Mr. Chairman. Before I go ahead, I would like to introduce the other people with me. Charlie Cotton is on my right. He manages all the work we have done for you in connection with the NAS plan, and Carl Palmer and Allen Li are on my left, and they will be talking with you specifically about the AAS.

We appreciate this opportunity to comment on FAA appropriation issues. We have worked with this subcommittee over the past few years to monitor many aspects of FAA's efforts to modernize, automate, and consolidate the national airspace system, and we believe the subcommittee has made some important contributions toward ensuring FAA's efficient implementation of the NAS plan.

Our testimony today covers continuing problems FAA has had in procuring the technologies required for the national airspace system plan, the NAS plan, and in developing adequate controller and inspector work forces.

We believe these problems demonstrate that this subcommittee should continue to question FAA appropriations requests in these areas.

NAS PLAN RISKS

The Congress, the Office of Technology Assessment, the Office of Management and Budget, and the Department of Transportation have repeatedly expressed concern about FAA's ability to effectively implement the NAS plan. We believe these concerns are well founded.

After my testimony, Dr. Palmer will address FAA's current plans to commit to production the single most expensive program in the NAS plan, the advanced automation system, before obtaining adequate assurance that the proposed system will perform as required.

Our work to date has also addressed a number of other NAS plan programs for which FAA has not adequately identified the technical, operational, and economic risks associated with their implementation.

Further, for many of these programs, FAA's acquisition strategy does not include a plan to minimize risks by adequately demonstrating a system's performance in an operational environment before committing to production.

DUATS

For example, FAA has not developed a strategy for adequately considering its technical options in developing direct user access terminal systems, called DUATS. DUATS is designed to reduce the work load of FAA's flight service station specialists by permitting pilots to obtain their own weather briefings and file flight plans with personal computers.

Still at issue is whether DUATS will be included in FAA's fully automated Model 2 flight service station program or be an independent system.

In June 1985, FAA requested funding to develop Model 2 which, if approved, would have put flight service automation $48 million over original estimates and 7 years behind schedule. However, this subcommittee and its Senate counterpart suspended all fiscal year 1986 funding for FAA's Model 2 program pending an FAA report comparing the relative cost, performance, and availability of commercial DUATS and two FAA-developed systems.

The suspension of fiscal year 1986 funds will remain in effect until both appropriations committees have had an opportunity to evaluate FAA's report.

At your request, we reviewed a December 1985 draft of the required FAA report. We found that the draft report wrongly attributed approval of FAA's preferred option, which was proceeding with a modified Model 2 contract, to a study team which, in fact, had never examined that option.

We also found that the study team's analysis supporting FAA's Technical Center DUATS was deficient in each of the cost, performance, and availability criteria FAA was asked to address, and therefore, is inadequate to justify any DUATS option.

FAA is currently reconsidering DUATS. Because of the unsupported preferred option in FAA's draft report, and the inadequacies in the study team's analysis, we believe the funding suspension should continue until both House and Senate Appropriations Committees have ample opportunity to evaluate the basis for whatever DUATS option FAA recommends.

AUTOMATED WEATHER OBSERVING SYSTEMS

As another example, FAA did not adequately identify the economic and safety risks of installing automated weather observing systems—those are called AWOSs—at towered airports. In a July 1985 report to you, we stated that FAA's operational testing showed that its automated system did not meet operational requirements for four of the nine weather elements considered essential to providing airport and area aviation weather forecasts.

These forecasts are considered essential to maintaining aviation safety. Conversely, existing surface weather observations at these airports, made by observers using equipment to measure or estimate the nine weather elements not only meet or exceed FAA's operational requirements, but are also more cost-effective.

FAA planned to spend $60 million to install automated systems at 304 towered airports across the nation, despite these test results. Citing our report, however, this subcommittee denied FAA funding for AWOSs at towered airports.

If FAA still hopes to install these systems at these airports, additional operational testing would be required to show that the systems meet the agency's operational requirements.

MICROWAVE LANDING SYSTEMS

Similar subcommittee action may be appropriate in the case of the microwave landing system, or MLS, which the FAA believes will provide state-of-the-art precision landings. In our work for this subcommittee, we have found that unresolved technical problems have delayed the installation date for the first MLS by 18 months, to July 1987.

The primary contactor has not been able to develop the necessary software, and has informed FAA that it is now planning to subcontract for software development.

As a result, FAA has not spent $50 million, or 35 percent of the $141 million already appropriated by the Congress from fiscal years 1982 through 1986 to buy the system.

FAA plans to use revised MLS performance specifications for a second procurement. Because FAA is changing specifications, it should demonstrate the system's performance in an operational environment before requesting additional funds for production.

TERMINAL DOPPLER WEATHER RADARS

FAA is also requesting $65.5 million in fiscal year 1987 to buy 15 terminal Doppler weather radars to detect and warn of low-level wind shear, even though research and development to find solutions to technical problems is still not complete.

Our work for this subcommittee has shown that this funding commitment for production would precede research and development solutions to the system's ground clutter suppression, data update rate, and fully automated warning requirements, as well as related research on radar siting, wind shear detection capabilities, and controller displays. FAA hopes that operational solutions to these technical problems will be available before production.

FAA then plans to apply these operational solutions to a second, different terminal Doppler radar to be located at 110 airports.

Currently, FAA does not plan to test either radar system in an operational environment before committing to production. Because of the complexity of the system and the life-critical decisions a controller and pilot must make on the basis of a terminal Doppler radar, we believe FAA should test and evaluate initial production units of both radar systems in an operational environment to ensure effective performance before proceeding to full production.

NAS PLAN MANAGEMENT

Because of the problems we noted in our reviews of specific NAS programs, you also requested us to review how well FAA and DOT are managing FAA's major system acquisitions.

What we found is encouraging for the future but disappointing for NAS programs already committed to production, which have experienced cost increases and schedule delays.

We would expect a major system acquisition program with significant technical, operational, and economic risks to require strict adherence with the phasing and competition principles fundamental to OMB Circular A-109. This directive established a process of decision-making at four critical points in a system's acquisition, including requiring an agency to demonstrate that a technology will actually work in an operational environment before it commits to production.

A 1984 FAA report on its acquisition process stated that there seemed to be little regard for the procurement policy set forth in OMB Circular A-109. Further, a 1984 study, again by an FAA consultant, of several major system acquisitions found that failure to adequately test operational systems in the field, prior to full procurement, is a major cause of FAA's subsequent performance problems.

In the past year, DOT and FAA have made progress incorporating the requirements and principles of OMB Circular A-109 into the NAS plan acquisition process.

However, six of the eleven major NAS plan systems, including flight service automation and MLS are already into the final production phase of the acquisition process, and two other systems, including AWOS, are currently scheduled to go into production.

None of the eight have benefited from the improvements in FAA's acquisition process and all have experienced cost increases, schedule delays, or both.

There is, however, hope that other major systems will benefit from these recent improvements. The three remaining major NAS plan systems, one of which is the advanced automation system, have still not reached the final production phase. Still other systems, such as terminal Doppler weather radars, are scheduled to become major systems in the near future. And a few systems, such as MLS, that are already in the final production phase, may have to return to the development and testing phase, due to the problems they have encountered in production.

Accordingly, we believe that all these systems should be subjected to FAA's revised acquisition process.

CONTROLLER AND INSPECTOR STAFFING

Now, while we believe this subcommittee should be cautious concerning FAA's appropriation requests to commit NAS plan programs to production, there is a clear need for more air traffic controllers and commercial aviation safety inspectors.

More controllers are needed because the first labor-saving features of FAA's planned automated air traffic control system will not be available until at least the mid-1990's, and air traffic activity is increasing.

More inspectors are needed because FAA's plan to make the inspector work force more productive has not realized expected gains, while the number of airlines and aircraft to be inspected have increased since deregulation.

Our March 1986 report states that FAA has not met its goals for full performance level controllers at many major facilities, and that the growth in air traffic activity has so increased controller work load, that controllers are stretched too thin. Despite FAA's assurances to the contrary, controllers and their supervisors have expressed serious concerns about their ability to continue to maintain the proper margin of safety due to their high work load.

We asked the Flight Safety Foundation to consider our findings in comparision to an evaluation of air traffic control system safety it provided FAA in January 1982. The Foundation concluded that conditions within the controller work force have changed since its 1981 evaluation, and that the present system does not provide the same level of safety as it did before the August 1981 air traffic controllers' strike.

FAA has several efforts underway to improve controller staffing, including recently announced plans to increase the controller work force by 480 in both fiscal years 1986 and 1987, but these new controllers will still need two years, or more, to become fully trained.

Further, the staffing situation could worsen because of the volatility of the retirement issue. We reported that FAA may be seriously underestimating the rate of controller retirements.

On the basis of our work, we support FAA's request to increase its number of fully qualified controllers. We also recommend that FAA impose restrictions on air traffic until both the number of FPL controllers and overtime requirements meet FAA's goals. As noted in our March 1986 report, problems relating to both the number of FPL's and overtime are most acute at the air route traffic control centers, and FAA must recognize this situation in deciding what restrictions it should impose.

INSPECTOR STAFFING

We are also completing some work on FAA's inspection program. Our work to date shows that FAA's inspection program cannot adequately ensure that commercial airlines are complying with FAA's safety regulations, and that FAA has allowed major safety problems to go undetected or uncorrected for long periods.

In December 1985, the Congress directed FAA to include funding in fiscal year 1986 for an additional 300 inspector and support staff above its original budget request, and FAA has requested another 138 inspector positions in fiscal year 1987.

There is no doubt that an increase in the number of inspectors is needed; however, we believe that FAA is ill-prepared to absorb the proposed 24-percent increase in its inspector work force in fiscal years 1986 and 1987.

A recent FAA task force concluded that FAA's present hiring practices do not always bring into the agency people with the experience and the capabilities needed to develop into competent inspectors. Further, we identified problems with both the quantity and quality of FAA inspections and inspectors. At the moment, FAA does not have adequate staffing standards to determine how many and what type of inspectors are needed, or where they should be assigned within FAA's regions, and does not even know how many of its existing inspectors are now assigned to airlines.

Further, FAA is increasing its inspector work force without (1) reevaluating what entry level knowledge and skills are appropriate for aviation safety inspectors, (2) revising its screening program to identify applicants with maximum potential for successful performance as inspectors, or developing a pass/fail training program similar to the program they use for air traffic controllers, (3) correcting identified problems in FAA's aviation safety inspector training program, and (4) making other needed revisions in existing training policies, procedures, and directives.

In summary, there are significant technical, operational, and economic risks associated with developing many NAS plan programs that have not been adequately identified by FAA prior to or during operational testing.

We believe, therefore, that this subcommittee should continue to question FAA's appropriations requests to assure that systems work before they are acquired.

We also believe that, while increasing the number of FAA controllers and inspectors is a step in the right direction that we support, FAA and the Congress should also deal with other problems within these work forces.

This concludes my testimony.
[The prepared statement follows:]

United States General Accounting Office
Washington, D.C. 20548

FOR RELEASE ON DELIVERY
EXPECTED AT 10:00 A.M.
WEDNESDAY, APRIL 16, 1986

STATEMENT OF

HERBERT R. MCLURE, ASSOCIATE DIRECTOR

RESOURCES, COMMUNITY, AND

ECONOMIC DEVELOPMENT DIVISION

BEFORE THE

SUBCOMMITTEE ON TRANSPORTATION

OF THE

HOUSE COMMITTEE ON APPROPRIATIONS

ON FAA APPROPRIATION ISSUES

Mr. Chairman and Members of the Subcommittee:

We appreciate this opportunity to comment on FAA appropriation issues. We have worked with this Subcommittee over the past few years to monitor many aspects of FAA's efforts to modernize, automate, and consolidate the national airspace system.

Our testimony today covers continuing problems FAA has had in procuring the technologies required for the National Airspace System (NAS) plan, and in developing adequate controller and inspector work forces. These problems demonstrate that this Subcommittee should continue to question FAA appropriations requests in these areas.

RISKS REMAIN FOR MANY NAS PLAN PROGRAMS

The Congress, the Office of Technology Assessment, the Office of Management and Budget, and the Department of Transportation (DOT) have repeatedly expressed concern about FAA's ability to effectively implement the NAS plan. We believe that these concerns are well founded.

After my testimony, my counterpart from our Information Management and Technology Division, Dr. Carl Palmer, will address FAA's current plans to commit to production the single most expensive program in the NAS plan, the Advanced Automation System, before obtaining adequate assurance that the proposed system will perform as required. Our work to date has also addressed a number of other NAS plan programs for which FAA has not adequately identified the technical, operational, and economic risks associated with their implementation. Further, for many of these programs, FAA's acquisition strategy does not include a plan to minimize risks by adequately demonstrating a system's performance in an operational environment before committing to production.

Automated flight services

For example, FAA has not developed a strategy for adequately considering its technical options in developing direct user access terminal systems, called DUATS. DUATS is designed to reduce the work load of FAA's flight service station specialists by permitting pilots to obtain their own weather briefings and file flight plans with personal computers. Still at issue is whether DUATS will be included in FAA's fully automated Model 2 flight service station program or be an independent system.

In June 1985 FAA requested funding to develop Model 2 which, if approved, would have put flight service automation $48 million over original estimates and 7 years behind schedule. However, this Subcommittee and its Senate counterpart suspended all fiscal year 1986 funding for FAA's Model 2 program pending an FAA report comparing the relative cost, performance, and availability of commercial DUATS and two FAA-developed systems. The suspension of fiscal year 1986 funds will remain in effect until both appropriations committees have had an opportunity to evaluate FAA's report.

At your request, we reviewed a December 1985 draft of the required FAA report. We found that the draft report wrongly attributed approval of FAA's preferred option, proceeding with a modified Model 2 contract, to a study team which, in fact, had never examined that option. We also found that the study team's analysis supporting FAA's Technical Center DUATS was deficient in each of the cost, performance, and availability criteria FAA was asked to address and, therefore, is inadequate to justify any DUATS option.

FAA is currently reconsidering its DUATS options. Because of the unsupported preferred option in FAA's draft report and the inadequacies in the study team's analysis, we believe the funding suspension should continue until both House and Senate appropriations' committees have ample opportunity to evaluate the basis for whatever DUATS option FAA recommends.

Automated weather observing systems

FAA also did not adequately identify the economic and safety risks of installing automated weather observing systems (AWOSs) at towered airports. In a July 1985 report to you we stated that FAA's operational testing showed that its automated system did not meet operational requirements for four of the nine weather elements considered essential to providing airport and area aviation weather forecasts.[1] These forecasts are considered essential to maintaining aviation safety. Conversely, existing surface weather observations at these airports made by observers using equipment to measure or estimate the nine weather elements not only meet or exceed FAA's operational requirements, but are also more cost-effective.

FAA planned to spend $60 million to install automated systems at 304 towered airports across the nation despite these test results. Citing our report, however, this Subcommittee denied FAA funding for AWOSs at towered airports. If FAA still hopes to install these systems at these airports, additional operational testing would be required to show that the systems meet the agency's operational requirements.

Microwave landing systems

Similar Subcommittee action may be appropriate in the case of the microwave landing system (MLS) which FAA believes will provide state-of-the-art precision landings.

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[1] Installation of Automated Weather Observing Systems by FAA at Commercial Airports Is Not Justified (GAO/RCED-85-78, July 29, 1985).

In our work for this Subcommittee, we have found that unresolved technical problems have delayed the installation date for the first MLS by 18 months to July 1987. The primary contractor has not been able to develop the necessary software and has informed FAA that it is now planning to subcontract for software development. As a result, FAA has not spent $50 million or 35 percent of the $141 million already appropriated by the Congress from fiscal years 1982 through 1986 to buy the system.

FAA plans to use revised MLS performance specifications for a second procurement. Because FAA is changing specifications, it should demonstrate the system's performance in an operational environment before requesting additional funds for production.

Terminal Doppler weather radars

FAA is also requesting $65.5 million in fiscal year 1987 to buy 15 terminal Doppler weather radars (S-band) to detect and warn of low-level wind shear[2] even though research and development to find solutions to technical problems is still not complete. Our work for this Subcommittee has shown that this funding commitment for production would precede research and development solutions to the system's ground clutter suppression, data update rate, and fully automated warning requirements, as well as related research on radar siting, wind shear detection capabilities, and controller displays. FAA hopes that operational solutions to these technical problems will be available before production. FAA then plans to apply these operational solutions to a second, different (C-band) terminal Doppler radar to be located at 110 airports.

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[2] This meteorological phenomenon is characterized by widely divergent winds in the form of gust fronts, downdrafts, or microbursts that directly affect an aircraft's flying ability.

Currently, FAA does not plan to test either radar system in an operational environment before committing to production. Because of the complexity of the system and the life-critical decisions a controller and pilot must make on the basis of a terminal Doppler radar, FAA should test and evaluate initial production units of both radar systems in an operational environment to ensure effective performance before proceeding to full production.

Management of FAA's major systems acquisition process

Because of the problems we noted in our reviews of specific NAS programs, you requested us to review how well FAA and DOT are managing FAA's major system acquisitions. What we found is encouraging for the future, but disappointing for NAS programs already committed to production, which have experienced cost increases and schedule delays.

We would expect a major system acquisition program with significant technical, operational, and economic risks to require strict adherence with the phasing and competition principles fundamental to OMB Circular A-109.[3] This directive established a process of decisionmaking at four critical points in a system's acquisition, including requiring an agency to demonstrate that a technology will actually work in an operational environment before it commits to production.

A 1984 FAA report on its acquisition process stated that there seemed to be little regard for the procurement policy set forth in OMB Circular A-109. Further, a 1984 study by an FAA consultant of several major systems acquisitions found that failure to adequately test operational systems in the field prior to full procurement is a major cause of FAA's subsequent performance problems.

In the past year, DOT and FAA have made progress incorporating the requirements and principles of OMB Circular A-109 into the NAS plan acquisition process. Six of the 11 major NAS plan systems, including flight service automation and MLS, are already into the final production phase of the acquisition process and two other systems, including AWOS, are currently scheduled to go to production. All eight have not benefitted from the improvements in FAA's acquisition process and have experienced cost increases, schedule delays, or both.

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[3] Published in 1976, this government-wide directive is intended to eliminate problems previously associated with the procurement of major systems. The directive attempts to avoid the premature commitment of a system to full-scale development and production by requiring periodic reviews of project cost, schedule, and performance.

There is, however, hope that other major systems will benefit from these recent improvements. The three remaining major NAS plan systems, one of which is the Advanced Automation System, have still not reached the final production phase. Still other systems, such as terminal Doppler weather radars, are scheduled to become major systems in the near future. And a few systems, such as MLS, that are already in the final production phase, may have to return to the development and testing phase due to problems encountered in production. Accordingly, we believe that all these systems should be subjected to FAA's revised acquisition process.

INCREASES IN FAA'S CONTROLLER AND INSPECTOR WORK FORCES ARE NEEDED

While we believe this Subcommittee should be cautious concerning FAA's appropriation requests to commit NAS plan programs to production, there is a clear need for more air traffic controllers and commercial aviation safety inspectors. More controllers are needed because the first labor-saving features of FAA's planned automated air traffic control system will not be available until at least the mid-1990's, and air traffic activity is increasing. More inspectors are needed because FAA's plan to make the inspector work force more productive has not realized expected gains, while the number of airlines and aircraft to be inspected have increased since deregulation.

FAA's air traffic controllers

Our March 1986 report states that FAA has not met its goals for full performance level (FPL) controllers at many major facilities, and that the growth in air traffic activity has so increased controller work load that controllers are stretched too thin.[4] Despite FAA assurances to the contrary, controllers and their supervisors have expressed serious concerns about their abilility to continue to maintain the proper margin of safety due to their high work load.

We asked the Flight Safety Foundation to consider our findings in comparison to an evaluation of air traffic control system safety it provided FAA in January 1982. The Foundation concluded that conditions within the controller work force have changed since its 1981 evaluation, and that the present system does not provide the same level of safety as it did before the August 1981 air traffic controllers' strike.

FAA has several efforts underway to improve controller staffing, including recently announced plans to increase the controller work force by 480 in both fiscal years 1986 and 1987. But these new controllers will still need 2 years or more to become fully trained. Further, the staffing situation could worsen because of the volatility of the retirement issue. We reported that FAA may be seriously underestimating the rate of controller retirements.

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[4] Aviation Safety: Serious Problems Concerning the Air Traffic Control Work Force (GAO/RCED-86-121, March 6, 1986).

On the basis of our work, we support FAA's request to increase its number of fully qualified controllers, and we recommended that FAA impose restrictions on air traffic until both the number of FPL controllers and overtime requirements meet FAA's goals. As noted in our March 1986 report, problems relating to both the number of FPLs and overtime are most acute at the air route traffic control centers, and FAA must recognize this situation in deciding what restrictions to impose.

FAA's commercial aviation safety inspector work force

We are also completing work on FAA's inspection program. Our work to date shows that FAA's inspection program cannot adequately ensure that commercial airlines are complying with FAA's safety regulations, and that FAA has allowed major safety problems to go undetected or uncorrected for long periods.

In December 1985 the Congress directed FAA to include funding in fiscal year 1986 for an additional 300 inspector and support staff above its original budget request, and FAA has requested another 138 inspector positions in fiscal year 1987.

There is no doubt that an increase in the number of inspectors is needed; however, we believe that FAA is ill-prepared to absorb the proposed 24-percent increase in its inspector work force in fiscal years 1986 and 1987. A recent FAA task force concluded that FAA's present hiring practices do not always bring into the agency people with the experience and capabilities needed to develop into competent inspectors. Further, we identified problems with both the quantity and quality of FAA inspections and inspectors.

At the moment, FAA does not have adequate staffing standards to determine how many and what type of inspectors are needed or where they should be assigned within FAA's regions, and does not even know how many of its existing inspectors are now assigned to airlines. Further, FAA is increasing its inspector work force without (1) reevaluating what entry level knowledge and skills are appropriate for aviation safety inspectors, (2) revising its screening program to identify applicants with maximum potential for successful performance as inspectors, or developing a pass/fail training program similar to that now being used for air traffic controllers, (3) correcting identified problems in FAA's aviation safety inspector technical training program, and (4) making other needed revisions in existing training policies, procedures, and directives.

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In summary, there are significant technical, operational, and economic risks associated with developing many NAS plan programs that have not been adequately identified by FAA prior to or during operational testing. We believe, therefore, that this Subcommittee should continue to question FAA's appropriations requests to assure that systems work before they are acquired. We also believe that, while increasing the number of FAA controllers and inspectors is a step in the right direction, FAA and the Congress should also deal with other problems within these work forces.

This concludes my testimony, Mr. Chairman. I will be happy to answer any questions you may have at this time.

GENERAL STATEMENT—DR. PALMER

Mr. **McLure**. We will switch to Carl Palmer, now, who is going to talk about the AAS.

Dr. **Palmer**. Good morning, Mr. Chairman, and Members of the subcommittee. I will summarize my statement. We are submitting a longer statement for the record, so that you have more facts available.

I appreciate the opportunity to comment on FAA's plans to modernize its air traffic control system through the Advanced Automation System, commonly called AAS, and to provide our latest assessment of FAA's acquisition strategy and the soundness of the $3.2 billion AAS investment to meet the future safety and efficiency needs of the nation's air transportation system.

In June of 1985, we reported to this subcommittee our concerns about the FAA's AAS acquisition strategy and inadequate testing of area functions.

AAS CONCERNS

In October 1985 we were asked by this subcommittee to evaluate whether the AAS is a technically and economically sound investment.

Based on our current evaluation, we remain concerned that (1) the technical risks involved in the AAS program are not adequately mitigated by the FAA's acquisition strategy, and (2) that the advanced automation features, that are supposed to provide the primary benefits, are not being operationally simulated before the investment commitment. In addition, our evaluation of available benefit cost analyses shows that the AAS investment, as currently defined, may not be economically justified.

The AAS, at $3.2 billion, is the largest single program in FAA's $12 billion National Airspace System plan. The AAS is expected to increase controller productivity and to provide significant airspace user benefits.

AAS ASSESSMENT CRITERIA

We applied the following criteria to assess whether the AAS program represents a technically and economically sound investment.

First, technical, operational, and economic risks associated with the investment should be clearly identified and minimized.

Second, the acquisition strategy should be designed to minimize these risks and to maximize system effectiveness. We would expect a major system acquisition program, with significant technical, operational, and economic risks, to require strict adherence to the phasing and extended competition principles fundamental to OMB Circular A-109. An important facet of this guidance is that the production commitment should not be made until a system's performance is tested in a realistic operational environment. You really ought to fly it before you buy it.

Third, the economic and intangible benefits of the program should justify the expected investment and operating and maintenance costs.

AAS TECHNICAL AND OPERATIONAL RISKS

The AAS technical and operational risks are significant. FAA's current air traffic control system is one of the largest and most complex real-time control systems in the world.

In the AAS program, virtually all the air traffic control computer hardware and software will be replaced, and important new capabilities will be added, with stringent performance and reliability requirements.

Operational risks are significant because many of today's routine procedures handled by controllers are eventually supposed to be performed and communicated by computer.

The distribution of complex air traffic control functions across a sophisticated, multi-component architecture of new software, new hardware, and new communications systems will be both complex and difficult.

The redesign of the present software into a distributed processing system in a high level language is complex and risky.

The intricately interwoven programs and complex logic of the current air traffic control software will make redesign difficult.

The AAS will use a new programming language called Ada. This language is still being developed and is relatively unproven for large real-time system applications such as the AAS.

The FAA's strenuous AAS availability requirements combined with a new distributed architecture also increase technical risks. FAA requires the system to be operational or available to perform emergency mode functions 99.99999 percent of the time.

This requirement means that the system outages cannot exceed 3 seconds per year. Full services at each center must be provided for 99.9995 percent of the time, or all but 2.6 minutes per year.

The addition of new functions, many of which have not been developed and tested, or even operationally simulated, also increases the difficulty of the system development.

The advanced automation functions of Aera are supposed to be sources of significant labor-saving features for FAA controllers and the principal source of most airspace user benefits.

Significant questions about the automated functions of Aera remain unanswered. In August 1985, an FAA committee raised 87 questions about the Aera functions. The Aera committee classified some of these questions as critical to the development of both Aera 1 and Aera 2. FAA, however, does not have an approved plan to perform operational simulation of Aera functions before the production decision.

Many of the other systems the AAS will interface with or depend on are also still being developed, and thus represent risk to the planned evoluation of the AAS, if problems are experienced in these related programs.

Achieving the requirements for overall system performance, system capacity, and high availability makes the AAS development and production a challenging task like only a few in or out of the government. It is as complex as they come.

FAA's failure to adequately identify risks increases the likelihood that it will experience negative effects.

RISKS OF ACQUISITION STRATEGY

FAA's current acquisition strategy does not adequately mitigate risks. FAA's two-phase acquisition strategy differs from that recommended for the acquisition of major systems like the AAS.

Rather than using a four-phase process with successive approvals based on demonstrated results and extended competition to minimize risks, as recommended by OMB Circular A-109, FAA incorporates only one decision point before committing to a combined development, test, and production phase.

In addition, FAA's strategy incorporates full production of the most costly element, the controller work station, concurrent with the development of the most complex software and hardware elements.

In its January 29, 1986 response to this subcommittee regarding the concerns raised in our 1985 AAS report, the FAA contends its acquisition strategy is sound. However, we believe that the strategy does not provide a sufficient basis to make a sound production decision.

RELIANCE ON PAPER DESIGNS

FAA's design competition phase will culminate in complete on-paper system design from both contractors; prototype of the controller work station console; computer model simulations of system performance; and design trade-off analyses.

We believe these are important tools to select among design alternatives. However, we believe they are inadequate to ensure that a proposed system, when it is fully developed and produced, will meet its critical performance and availability requirements.

Because performance models rely on simplifying assumptions about complex and not well understood system interactions, simulations should really be validated through testing of actual hardware and software to reliably predict system performance.

In the current FAA acquisition strategy, no AAS testing will be performed and no software will be developed before the production commitment is made.

Therefore, neither FAA nor the contractors will validate the contractors' models through these means.

The danger of relying on paper designs, even supported by extensive computer simulations, is illustrated by the Navy's recent experience with its SUBACS program. The local communications network's performance capabilities for that program were modeled based on assumptions about the system.

Subsequent tests, however, showed that actual performance was only one-sixth as fast as the model predicted and the system required. This problem had a major cost, schedule, and performance impact on the Navy's plans to improve its submarines' command and control systems.

We also believe that FAA's planned demonstration of the controller work station will not ensure that it will either perform as required, or be operationally suitable.

The primary demonstration is a contractor-conducted display simulation of a prototype work station console without its computers, communications equipment or software.

Hardware and software reliability will not be demonstrated, even though critical to FAA's requirements.

ADDITIONAL AAS TESTING

FAA's response to this subcommittee also states that an additional contractor to perform development and testing, before making its production decision, as recommended by Circular A-109, is not justified.

According to FAA, additional testing would add 40 months to its schedule, cost an additional $300 million, and cause the loss of $3.8 billion in FAA and user benefits.

We disagree with these estimates. On the basis of FAA's current plans, it appears that critical en route AAS functions could be developed and tested within 24 to 27 months after the conclusion of the design phase. FAA testified last year that implementing a full-scale development and test phase would result in about a two-year delay.

No changes in FAA's test program occurred between these two estimates. In addition, unless the second contractor represents a truly viable competitor, and its design is a good alternative, the extra $200 million to $300 million cost of continuing a competition would not be a good choice.

AAS BENEFITS AND COSTS

Our evaluation of the economic soundness of the AAS shows that FAA's claim of $3.8 billion in lost benefits is overstated.

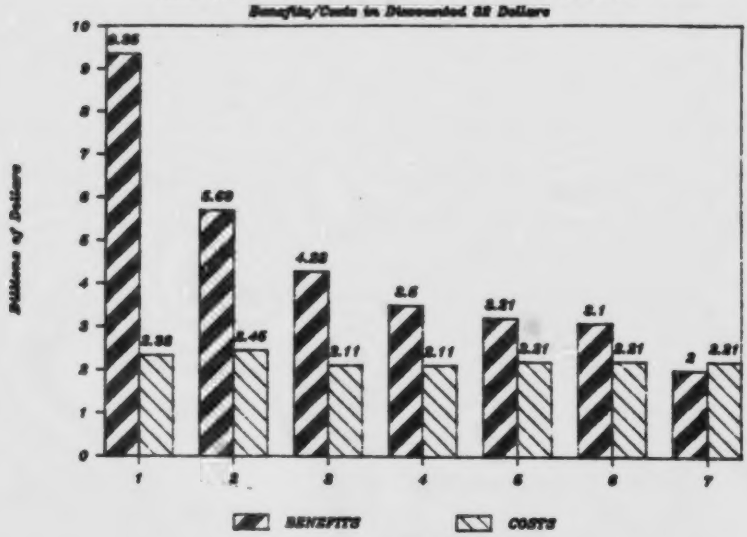
AAS benefits may not exceed costs. We evaluated the benefit/cost information provided in FAA's 1982 Response to the Congress, and the 1985 unapproved draft of a MITRE benefit/cost study of the advanced automation program, that includes both the Host system and the AAS.

I would like to direct your attention to the chart which you have in the prepared testimony and up here on the board, which depicts the two economic analyses we reviewed and the adjustments we made to the MITRE study figures.

[The chart follows:]

ADVANCED AUTOMATION SYSTEM

Benefits/Costs in Discounted 82 Dollars



LEGEND

(1) Benefits and costs per FAA's 1982 Response to Congressional Recommendations.

(2) Benefits and costs per unapproved 1985 MITRE benefit/cost study of the Advanced Automation Program. Figures are discounted to 1982 dollars.

(3) Benefits adjusted by GAO to reflect reduction due to savings attributed to Host computer system and En Route Metering II (not attributable to AAS). Costs adjusted by GAO to reflect reduction due to Host computer system costs.

(4) Benefits adjusted by GAO to reflect conformance to supporting study methodology referenced in 1985 MITRE study.

(5) Benefits adjusted by GAO to reflect AAS program implementation change.

(6) Benefits adjusted by GAO to reflect revised OMB fuel price forecast.

(7) Benefits adjusted by GAO to reflect elimination of passenger time savings.

AAS COST BENEFIT ADJUSTMENTS

Dr. **Palmer**. Columns 1 and 2 compare the benefits and costs estimated in the FAA and MITRE studies, discounted to the same base year of 1982. In its 1982 response to the Congress, FAA justified the Host, AAS, Aera, and Mode S programs, estimating that benefits would be about four times greater than costs. The 1985 MITRE study estimated that quantifiable benefits from these same programs would be about twice as large as costs, even though new categories of user benefits were found and added for AAS.

Columns 3 through 7 show the effect of adjustments we applied to the 1985 MITRE study figures. Column 3 shows reduced benefits of $1.4 billion and reduced costs of $340 million to eliminate benefits and costs properly attributable to the Host computer program and related enhancements.

We deducted these benefits and costs because they are incurred and achieved independently of the AAS program investment.

Column 4 reduces benefits another $784 million to reflect the actual phasing in of the Aera program benefits, as indicated by the supporting analysis cited in the MITRE study.

Column 5 shows another $288 million benefit reduction and a $102 million cost increase due to AAS and Aera program slippage and cost growth.

Column 6 reduces benefits based on a revised OMB longterm oil price forecast—published last year. However, the magnitude of the recent decline in the price of oil is not fully reflected in this revised forecast. If this recent decline is sustained over a long period of time, benefits would be reduced much more.

At this point, approximately $1.1 billion of the remaining $3.1 billion in benefits is attributable to passenger time savings. To obtain the large total savings, MITRE assumed that no flights were granted user-preferred, fuel-efficient routes, until Aera 1 was implemented with the AAS. At that time, MITRE assumed that all flights would be granted direct routes, and that these routes would yield a time savings of 3 minutes or less on most flights, and approximately 6 minutes on a five-hour cross-country flight.

MITRE essentially added up all the few minutes saved by millions of passengers over 17 years, and multiplied that by $20.50 per hour, the assumed average hourly earnings of an airline passenger.

We believe some of the assumptions and the methodology used to develop this estimate are questionable, particularly the assumption that no flights can be granted user-preferred routes until AAS/Aera 1 is implemented.

We found many flights are flying user-preferred routes under the current system. Finally, the amount of time passengers save might be immaterial to an individual passenger, who would be saving at most only a few minutes of flight time.

OMB supports this view—that passenger time savings of less than 5 or 10 minutes are immaterial. Column 7 shows the impact of eliminating the passenger time savings benefits. As indicated, the remaining $2 billion of quantifiable AAS benefits no longer exceed costs.

The remaining benefits may fall further due to the lower price of fuel, and several questionable assumptions. Further, significant uncertainty also exists about AAS cost growth; the program has already encountered significant cost growth (at least 50 percent in the design competition phase), and as we pointed out earlier, the FAA's acquisition strategy increases the risk of further cost growth.

HIGH AAS TECHNICAL AND OPERATIONAL RISKS

In summary, under the best of circumstances, the technical and operational risks associated with developing the AAS program are high.

The software and other key AAS components are extremely complex and some of the technology required is pushing the state of the art.

The dramatic change in the way air traffic will be controlled serves to increase these risks. The economic risk of a $3.2 billion investment will make any major development problems encountered economically significant.

HIGH RISK ACQUISITION STRATEGY

FAA's two-phase acquisition strategy differs from that recommended for the acquisition of major systems like AAS. FAA has only one decision point before committing to a combined development test and production phase. This combined phase incorporates full production of the most costly element, the controller work station, concurrent with the development of the most complex software and hardware elements. With the technical risks and the economic stakes involved, we believe this represents an unacceptably high risk to the government.

Based on our analysis, the resulting low benefits to cost ratio clearly does not justify an accelerated acquisition strategy.

We are not arguing against introducing the new work station before the full AAS is implemented, only against rushing into full production of the work station before the rest of the system has been developed, tested, and its design and performance are proven.

We continue to believe that follow-on air traffic control automation is needed. However, the Host computer systems should provide the time needed to properly develop the AAS.

We do have time to do it right. I do not think we have the time and money to do it over.

We believe that incorporating a development and test phase before the AAS production decision would make a more prudent acquisition strategy.

We believe that continuing with the current strategy, without operational simulation of Aera functions, could result in significant performance and reliability inadequacies, cost increases, and unrealized benefits.

PROPOSED COURSE OF ACTION

We plan to do additional work on the AAS program and related systems. However, based on our work to date, we believe changes are needed in FAA's program in order to minimize the risk of the AAS acquisition and to ensure that the AAS effectively meets the future safety and efficiency needs of the nation's air transportation system.

Therefore, we believe the Congress should consider directing FAA to do three things.

First, FAA should revise its current acquisition strategy to incorporate a contract phase to develop and operationally test prototype models of critical components under realistic conditions before the decision and contract are made for full production quantities. At a minimum, critical components would include the controller work station, en route AAS hardware and software, and the local communications network.

Second. FAA should reexamine the AAS features and requirements to identify the most inexpensive and cost-effective alternatives and to revalidate its critical requirements before proceeding to the development and testing phase.

And third, we believe FAA should verify the benefit estimates and operational suitability of Aera 1 and 2 functional enhancements by operational simulation, as soon as is practicable, and before proceeding with full-scale production.

PREPARED STATEMENT—DR. PALMER

This concludes my testimony, Mr. Chairman. I will be pleased to answer any questions that you or others may have at this time.

[The prepared statement of Dr. Palmer follows:]

UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

FOR RELEASE ON DELIVERY
EXPECTED AT 10:00 A.M.
WEDNESDAY, APRIL 16, 1986

STATEMENT OF
CARL R. PALMER, ASSOCIATE DIRECTOR
INFORMATION MANAGEMENT AND
TECHNOLOGY DIVISION
BEFORE THE
SUBCOMMITTEE ON TRANSPORTATION
OF THE
HOUSE COMMITTEE ON APPROPRIATIONS
ON
FAA'S ADVANCED AUTOMATION SYSTEM

Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to comment on FAA's plans to modernize its air traffic control system through the Advanced Automation System--commonly called AAS--and to provide our latest assessment of FAA's acquisition strategy and the soundness of the $3.2 billion AAS investment to meet the future safety and efficiency needs of the nation's air transportation system.

In October 1985, we were asked by this Subcommittee to evaluate whether the AAS is a technically and economically sound investment. Based on our current evaluation, we remain concerned that (1) the technical risks involved in the AAS program are not adequately mitigated by the acquisition strategy and (2) that the advanced automation features, that are supposed to provide the primary benefits, are not being operationally simulated before the investment commitment. In addition, our evaluation of available benefit/cost analyses shows that the AAS investment, as currently defined, may not be economically justified.

In our earlier report, we expressed our concerns about the AAS acquisition strategy and the incomplete testing of advanced automation functions.[1] In another report, we questioned FAA's plans to make a production decision on the Host computer system without full performance testing.[2] We will report on our latest evaluation of the Host program in June 1986. Today's testimony addresses only the AAS program. (The appendix provides a more detailed explanation of the objectives and scope of our review.)

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[1] GAO Questions Key Aspects of FAA's Plans To Acquire the Multi-Billion Dollar Advanced Automation System and Related Programs (GAO/IMTEC-85-11, June 17, 1985).

THE AIR TRAFFIC CONTROL SYSTEM

Computers support FAA's air traffic control mission--a service provided to promote the safe, orderly, and expeditious flow of air traffic by maintaining the necessary separation between aircraft.

Air Route Traffic Control Centers control air traffic that is en route or between airports and operating under instrument flight rules. These centers ensure aircraft separation and provide traffic advisories and weather information to pilots. A typical center is responsible for more than 100,000 square miles of airspace and scores of air routes, which are like electronic highways to pilots. The center's airspace is divided into geographical areas called sectors, which define the area for which the controllers are responsible. There are 20 en route centers in the continental United States and 4 offshore centers. Terminal Radar Approach Control facilities sequence and separate aircraft arriving at or departing from airports, while Air Traffic Control Towers handle traffic that is in the immediate vicinity of major airports. There are approximately 188 Terminal Radar Approach Control facilities and 400 Air Traffic Control Towers at major airports across the country.

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[2] Federal Aviation Administration's Host Computer: More Realistic Performance Tests Needed Before Production Begins (GAO/IMTEC-85-10, June 6, 1985).

Today, to provide essential aircraft position and flight plan information to controllers, IBM 9020 computers, deployed between 1969 and 1977, operate at FAA's en route centers. These computers take inputs from many radars, identify and track the targets, associate the tracks with flight plans, and display the aircraft identification and position location. The computers also take flight plan data, perform necessary updates, and print flight progress strips. This requires coordination and pencil marking by controllers. The 9020 computers also use the radar and flight plan data to provide two safety-related warnings--Conflict Alert, when two aircraft are predicted to have less than standard separation within the next 2 minutes, and Minimum Safe Altitude Warning, when an aircraft is predicted to be below a predetermined safe altitude within the next several minutes.

AIR TRAFFIC CONTROL COMPUTER MODERNIZATION PLANS

Before presenting the results of our evaluation, I will briefly describe what the AAS program is expected to accomplish and its present status. The AAS--at $3.2 billion--is the largest single program in FAA's $12 billion National Airspace System Plan, which is intended to modernize and improve air traffic control and airway facilities services. The plan assumes that, unless aging and technically obsolete facilities are modernized, FAA will be unable to keep pace with the nation's air traffic demands. The goal of the plan is to increase safety, capacity, productivity, and economy by implementing more automation and by consolidating facilities. To gain near-term capacity increases and to provide the time needed to develop the AAS, FAA is installing the new Host computer system at centers that control aircraft en route between airports. The Host computer will allow processing of existing air traffic control software on new equipment. In the short-term, terminal operations around major airports are scheduled for minor equipment upgrades. The AAS is FAA's longer term program and is expected to (1) enable the consolidation and replacement of en route and terminal facilities, (2) increase controller productivity and system availability, (3) reduce operating costs, (4) save fuel and (5) automate many of the functions currently performed by controllers, thus dramatically changing the way air traffic is controlled.

The AAS and advanced automation functions are scheduled for deployment in several steps, each of which is expected to provide increased capability.

1991-1993. Controller workstations with new displays, workstation software, and a local communications network will be deployed at en route centers to operate using existing air traffic control software and the Host computers. FAA refers to this step as the Initial Sector Suite System or ISSS.

1993-1994. The full en route AAS will replace the existing en route air traffic control software and most data processing hardware, and add the first set of advanced automation functions--called Aera 1. Aera 1 functions will predict the future location of aircraft and check for potential conflicts.

1994-1998. A modified version of the AAS will be deployed at selected airport towers, allowing consolidation of 188 terminal radar control facilities into 23 centers, which will then be called Area Control Facilities.

1997-1999. The second set of automation functions, called Aera 2, will be added for en route control. Aera 2 functions will provide controllers several alternative resolutions to potential conflicts identified by the AAS and will improve coordination with other controllers.

2000 and beyond. The third set of automated functions, Aera 3, is not yet fully defined. It is hoped, however, that with these functions, the computer will be able to select the proper resolution of potential conflicts and communicate course and altitude changes directly to the aircraft.

The AAS acquisition is being conducted in two phases. Phase 1 is a design competition between the IBM Corporation and Hughes Aircraft Company. Awarded in August 1984, both contracts amounted to approximately $247 million and require on-paper system designs by mid-1987. The design competition phase has recently incurred a 6 month delay and a cost increase of over $120 million. This happened because not all Aera 1 requirements were included in the contracts; new requirements, such as color displays, were added; and FAA and the contractors had to clarify other requirements.

In March 1987, FAA plans to issue a Request for Proposals for phase 2--a concurrent development and production contract that will be awarded to one of the contractors in early 1988. The Congress will be asked to make the $3.2 billion investment commitment to this system in the spring of 1987 when FAA requests appropriations for fiscal year 1988.

EVALUATION CRITERIA

We applied the following criteria to assess whether the AAS program represents a technically and economically sound investment.

First, technical, operational, and economic risks associated with the AAS program should be clearly identified and minimized. We would expect FAA to have completed a detailed and systematic analysis of such risks, identifying potential problems, the potential effect of these problems, and steps taken to reduce these risks or their effect. Risks exist when (1) significant hardware or software changes are made, (2) new or untried technologies or development methods are used, or (3) new functions or applications are performed. Risks associated with other interdependent systems or programs also need to be considered.

Second, the acquisition strategy should be designed to minimize these risks and to maximize system effectiveness. We would expect a major system acquisition program with significant technical, operational, and economic risks to require strict adherence to the phasing and extended competition principles fundamental to Office of Management and Budget Circular A-109. This circular recommends four separate acquisition phases: (1) concept exploration, (2) concept demonstration, (3) full-scale development and testing, and (4) production. An important facet of this guidance is that the production commitment should not be made until a system's performance is tested in a realistic operational environment. The importance of following this approach was recently affirmed in the February 1986 Interim Report of the President's Blue Ribbon Commission on Defense Management. This report concluded that full-scale development testing of weapons systems is critical to improve system performance and that systems should not go into high-rate production without operational test results. The report also stated that we should "fly and know how much it will cost before we buy."

Third, the economic and intangible benefits of the program should justify the expected investment and operating and maintenance costs.

AAS TECHNICAL AND OPERATIONAL RISKS ARE SIGNIFICANT

FAA's current air traffic control system is one of the largest and most complex real-time control systems in the world. Replacing this system would be an extremely complex and risky undertaking even without the addition of new capabilities and new technologies. In the AAS program, virtually all air traffic control computer hardware and software will be replaced, and important new capabilities with stringent performance and reliability requirements will be added. Operational risks are significant because many of today's routine procedures handled by controllers are eventually supposed to be performed and communicated by computer. Complexity and risks are caused by the cumulative effect of redesigning the software; using a new computer language; designing a system with very high availability requirements; replacing the hardware, including controller workstations; incorporating new automated functions; and interfacing with other systems still in development.

The redesign of the present software into a distributed processing system in a high level language is complex and risky. The intricately woven programs and complex logic of the current air traffic control software will make redesign difficult. The current software has been referred to as an "intertwined mess" due to numerous coding changes made over 15 years. The addition of new functions, many of which have not been developed and tested or even operationally simulated, increases this difficulty.

According to the AAS Program Manager, the AAS will use a new programming language called Ada. This language, developed for the Department of Defense, is still being developed and is relatively unproven for large real-time system applications such as the AAS. FAA's strenuous AAS availability requirements, combined with a new distributed architecture, also increase technical risks. FAA requires the system to be operational or available to perform emergency mode functions 99.99999 percent of the time. This requirement means that system outages cannot exceed 3 seconds per year. Full services must be provided 99.9995 percent of the time. At this level, the system cannot be out for more than about 2.6 minutes per year.

The distribution of complex functions across a sophisticated, multi-component architecture of new software, hardware, and communications systems also increases the development risks. Further, the high resolution, flat color video display of the controller workstation, and the capacity requirements of the local communications network are pushing the state of the art and represent development, producibility, and reliability risks.

Anticipating the extension of the system to perform full automation functions that have not yet been fully defined further adds to the complexity and risks. The advanced automation functions of Aera are the source of significant labor-saving features for FAA controllers and the principal source of most airspace user benefits. Significant questions about the automated functions of Aera remain unanswered. For example, in July 1985 an FAA committee, charged with overseeing Aera development, raised 87 questions about the Aera functions. The Aera committee classified some of these questions as critical to the development of both Aera 1 and Aera 2 and indicated that some could be answered by testing and simulation and should be resolved before the AAS production decision. FAA, however, does not have an approved plan to perform operational simulation of Aera functions before the production decision.

Many of the other systems the AAS will interface with or depend on are also still being developed and thus represent risks to the planned evolution of the AAS. Problems have been experienced in related programs. Performance testing of the Host computer, which must be operational at all centers before the controller workstations are installed, has been delayed due to software conversion difficulties. Because of program difficulties, the Mode S surveillance system, which will provide more accurate position information and enable direct aircraft to computer linkages, will be tested concurrently with operational installation to meet deployment milestones. Also, any slippage in the development of the critical Voice Switching and Control System, which permits automated controller voice communications, would delay workstation deployment.

Achieving the requirements for overall system performance, system capacity, and high availability makes the AAS development and production a very challenging task like only a few in or out of the government--it is as complex as they come. Failure to adequately identify and mitigate risks increases the likelihood of unsatisfactory performance, including poor system reliability; cost increases; and schedule delays in the development and production phase.

FAA's CURRENT ACQUISITION STRATEGY DOES NOT ADEQUATELY MITIGATE RISKS

FAA's two-phase acquisition strategy differs from that recommended for the acquisition of major systems like the AAS. Rather than using a four-phase process with successive approvals based on demonstrated results and extended competition to minimize risks, as recommended by Office of Management and Budget Circular A-109, FAA incorporates only one decision point before committing to a combined development, test, and production phase. In addition, FAA's strategy incorporates full production of the most costly element--the controller workstation--concurrent with the development of the most complex software and hardware elements.

In its January 29, 1986, response to this Subcommittee regarding the concerns raised in our 1985 AAS report, FAA contends that its acquisition strategy is sound. However, we disagree that the acquisition strategy provides a sufficient basis to make a sound production decision.

FAA's design competition phase will culminate in:

--A complete on-paper system design from both contractors for the Initial Sector Suite System and the full en route and tower AAS systems, including the Aera 1 advanced automation features. Contractors will also show how their designs can be extended to perform Aera 2 and Aera 3 functions.

--A prototype of the controller workstation console, a simulated display of typical air traffic control situations, and a demonstration of how effectively and safely controllers interact with the prototype console.

--Computer model simulations of top-level design issues and the principal functions and operations of the system, with overall system performance model analyses and trade-off analyses.

--Life cycle cost estimates.

We believe system design documentation, trade-off analyses, and computer model simulations are important to select among design alternatives. However, we believe they are inadequate to ensure that a proposed system, when developed and tested, will meet its critical performance and availability requirements.

Because performance models rely on simplifying assumptions about complex and not well understood system interactions, simulations must be validated through testing of actual hardware and software to reliably predict system performance. In the current FAA acquisition strategy, no AAS testing (other than a limited demonstration of the controller workstation console) will be performed and no software will be developed before the production commitment is made. Therefore, neither FAA nor the contractors will validate the contractors' models to ensure that proposed systems will perform as required. An official of the Federal Computer Performance and Simulation Center told us that it is dangerous to rely on unvalidated models to ensure that system performance requirements will be met.

The danger of relying on paper designs, even supported by extensive computer simulations, is illustrated by the Navy's recent experience with its SUBACS program.[3] This program is similar to the AAS in that it uses a distributive architecture to distribute and communicate data. The local communications network's performance capabilities were modeled based on assumptions about the complexity of the network's operating system and the time required for processing. Subsequent communications network tests, however, showed that actual performance was only one-sixth as fast as the model predicted and the system required. The designers had underestimated the complexity of the network's operating system and had assumed the computer program would require far fewer lines of code than were actually needed. This problem had a major cost, schedule, and performance impact on the Navy's plans to improve its submarines' command and control systems. The system has been redesigned at substantial cost. The SUBACS contractor program director told us that performance models should be validated with actual performance tests to use them successfully in an acquisition.

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[3] SUBACS Problems May Adversely Affect Navy Attack Submarine Programs (GAO/NSIAD-86-12, Nov. 4 1985).

We also believe that FAA's planned demonstration of the controller workstation will not ensure that it will either perform as required or be operationally suitable. The primary demonstration is a contractor-conducted display simulation of a prototype workstation console without its computers, communications equipment, or software. The demonstration will show how the input and output devices will perform, and the screens will show simulated displays of typical air traffic control situations. Accessibility for maintenance purposes will also be demonstrated. However, problem recognition and diagnosis will not be demonstrated. Hardware and software reliability will also not be demonstrated, even though high reliability is critical to meeting

FAA's stringent availability requirements. Thus, FAA will not have operationally tested this workstation in a realistic environment before making a production decision; instead it will rely on the design documentation, computer performance model simulations, and the results of a limited demonstration of one subsystem to ensure that requirements will be met.

As a result of our concerns about FAA's reliance on computer performance simulations and the limited demonstration of the prototype workstation, we continue to believe that FAA has not adequately identified and mitigated AAS development risks. This increases the need for an acquisition strategy that minimizes risks. We believe that FAA's strategy of delaying developmental testing until after production commitment is made increases rather than decreases the economic risks.

FAA contends that an independent organization, the FAA Operational Test and Evaluation staff, will assess the operational readiness of the AAS before the production decision, thus reducing the risk the AAS will not meet operational requirements. An official from this organization, however, told us his group will not have enough information to fully evaluate the program since no operational readiness testing will be completed until 18 months after the production contract award. The staff plans to recommend that the production contract be awarded on the condition that they continue their oversight until test results are available. This information is not reflected in FAA's January 1986 response.

FAA's response also states that additional testing before making the production decision, as recommended by Circular A-109, is not justified. According to FAA, additional testing would add 40 months to their schedule, cost an additional $300 million, and cause the loss of $3.8 billion in FAA and user benefits. We disagree that it would take 40 months to obtain sufficient system performance information and that lost benefits would be as large as FAA claims.

FAA's current development and testing plans call for critical AAS hardware and software elements to be subjected to extensive performance and operational tests about 2 years after the production contract award. Thus, delaying the production contract award until these tests are completed would add about 2 years to the schedule. However, the added time would provide important additional information about AAS system performance and effectiveness. By that time, tests would have shown whether

--controller workstation functional and performance requirements can be met at the maximum expected workload when operating with the Host computer system;

--some portion of the en route AAS input, output, and display processing requirements can be met; and

--some AAS tower requirements can be met.

FAA should have considered these or other intermediate milestones as possible alternatives to its current acquisition strategy. The agency should also have considered revising the AAS program to achieve earlier development and testing of the most critical AAS elements.

We did not attempt to prepare an optimized development and test schedule. However, on the basis of FAA's current plans, it appears that critical en route AAS functions could be developed and tested within 24 to 27 months after the conclusion of the design phase. The extra cost of continuing a second contractor for this period of time would be roughly $200 million, or a little more than five percent of AAS investment costs. We also noted that FAA had testified last year that implementing a full-scale development program would result in about a 2 year delay. No changes in FAA's test program occurred between the 2 year and 40 month estimates. In addition, unless the second contractor represents a truly viable competitor and its design is a good alternative, the extra cost of continuing a competition may not be a good choice. In this case, FAA could develop and test one system at little or no added cost before awarding a production contract.

I will now discuss our evaluation of the economic soundness of the AAS and show that FAA's claim of $3.8 billion in lost benefits caused by earlier testing is overstated.

AAS BENEFITS MAY NOT EXCEED COSTS

FAA has not completed a separate officially approved benefit/cost analysis or independent cost estimate for the AAS. Currently it is performing such an analysis at the direction of House Joint Resolution 465 on Further Continuing Appropriations for Fiscal Year 1986, and plans to complete it by early 1987. Consequently, we reviewed the most current benefit/cost information available. We evaluated the benefit/cost information provided in FAA's 1982 Response to the Congress[4] and the 1985 unapproved draft MITRE benefit/cost study[5] of the advanced automation program that includes both the Host system and the AAS.[6] Our evaluation indicates quantifiable AAS benefits may not exceed AAS costs.

While our analysis of the draft MITRE study indicates that the quantifiable benefits may be less than AAS costs, we recognize that other unquantified and non-quantifiable benefits, such as increasing safety, eliminating old equipment, and providing better controller working conditions, should also be considered. The total benefits of Aera's advanced automation features appear to outweigh significantly the modest costs of developing these features. However, the costs of other elements of the AAS, especially the controller workstation, greatly outweigh the benefits that can be attributed to them, except to the extent they support the new Aera functions.

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[4] Response to Congressional Recommendations Regarding the FAA's En Route Air Traffic Control Computer System (DOT/FAA/AAP-82-3, Jan. 1982).

[5] Benefit/Cost Study For The Advanced Automated Air Traffic Control System (DOT/FAA/AAP-84-32, Draft April 1985).

[6] We did not evaluate a third estimate by Martin Marietta because Martin Marietta officials told us the estimate was based on one expert's opinion and needed to be validated by an extensive analysis.

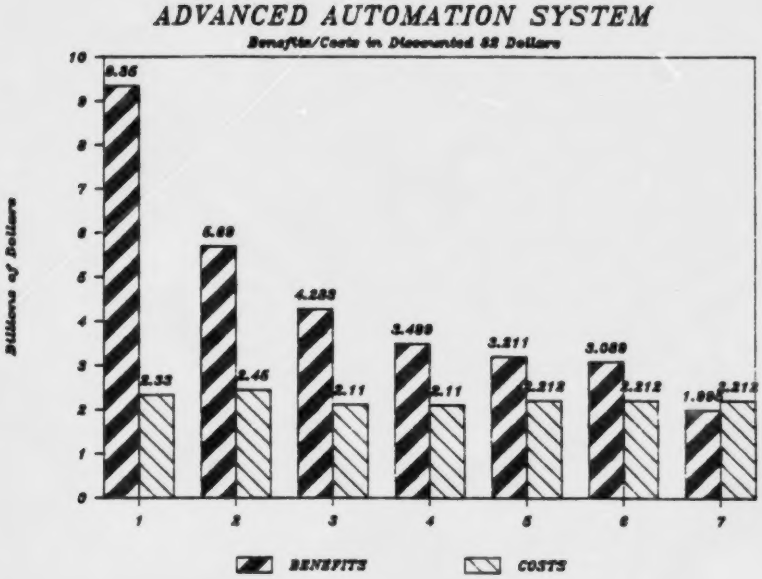
I would like to direct your attention to the chart, which depicts the two economic analyses we reviewed and the adjustments we made to the MITRE study figures. Columns 1 and 2 compare the benefits and costs estimated in the FAA and MITRE studies, discounted to the same base year of 1982. In its 1982 response to the Congress, FAA justified the Host, AAS, Aera, and Mode S programs, estimating that benefits would be about four times as great as costs. The 1985 MITRE study estimated that quantifiable benefits from these same programs would be about two times as large as costs.

To gain a perspective on currently estimated benefits, let me explain their composition. In the MITRE study, external user benefits, many of which were not quantified in the 1982 response to the Congress, were estimated to constitute about 85% of the total benefits and come from (1) reduced aircraft fuel consumption ($1.2 billion), (2) reduced airline operating costs ($1.4 billion), and (3) airline passenger time savings ($2.2 billion). Internal FAA benefits, primarily from increased controller productivity ($1 billion), account for the remaining 15 percent of the total.

Columns 3 through 7 show the effect of adjustments we applied to the 1985 MITRE study figures. Column 3 shows reduced benefits of $1.4 billion and reduced costs of $340 million to eliminate benefits and costs properly attributable to the Host computer program and related enhancements. We deducted these benefits and costs because they are incurred and achieved independently of the AAS program. Column 4 reduces benefits another $784 million to reflect the actual phasing in of the Aera program benefits, as indicated by the supporting analysis cited in the MITRE study. Column 5 shows another $288 million benefit reduction and a $102 million cost increase due to AAS program slippage and cost growth from increased requirements. Column 6 reduces the benefits by $122 million due to Office of Management and Budget revised long-term oil price forecasts. However, the magnitude of the recent decline in the price of oil is not fully reflected even in the revised forecast. If this recent decline is sustained over a long period of time, benefits would be reduced much more.

At this point, approximately $1.1 billion of the remaining $3.1 billion in benefits is attributable to passenger time savings. To obtain the large total savings, MITRE assumed that no flights would be user-preferred, fuel-efficient routes until Aera 1 was implemented with the AAS. At that time, all flights could be granted user-preferred routes and these routes would yield a time savings of 3 minutes or less on most flights and approximately 6 minutes on a 5 hour cross-country flight. MITRE essentially added up all the few minutes saved by millions of passengers over 17 years and then multiplied that by $20.50 per hour--the assumed average hourly earnings of an airline passenger.

We believe some of the assumptions and the methodology used to develop this estimate are questionable, particularly the assumption that no flights can be granted user-preferred routes until AAS/Aera 1 is implemented. As we will explain shortly, many flights are flying user-preferred routes under the current system. In addition, the amount of time passengers save might be immaterial to an individual passenger who would be saving at most only a few minutes of flight time. Finally, an official from the Office of Management and Budget has recently questioned whether such small increments of passenger time savings should be used to justify FAA programs such as the AAS. Column 7 shows the impact if the value of passenger time savings were eliminated. As indicated, the quantifiable AAS benefits no longer exceed costs.



LEGEND

(1) Benefits and costs per FAA's 1982 Response to Congressional Recommendations.

(2) Benefits and costs per unapproved 1985 MITRE benefit/cost study of the Advanced Automation Program. Figures are discounted to 1982 dollars.

(3) Benefits adjusted by GAO to reflect reduction due to savings attributed to Host computer system and En Route Metering II (not attributable to AAS). Costs adjusted by GAO to reflect reduction due to Host computer system costs.

(4) Benefits adjusted by GAO to reflect conformance to supporting study methodology referenced in 1985 MITRE study.

(5) Benefits adjusted by GAO to reflect AAS program implementation change.

(6) Benefits adjusted by GAO to reflect revised OMB fuel price forecast.

(7) Benefits adjusted by GAO to reflect elimination of passenger time savings.

The remaining $2 billion in benefits may fall farther due to the lower price of fuel and several questionable assumptions. For example, the MITRE study assumed that no user-preferred direct routes would be granted until Aera 1 was implemented, and then it assumed that all requests would be granted. User-preferred direct routes not only affect passenger time, as noted earlier, but also operating costs and fuel savings. Although FAA does not keep records of direct routes granted, we found that a significant number is now granted and that FAA is working to increase that number. Further, we found that most preferred altitude requests are granted now. Also, uncertainties about Aera and controller workstation productivity estimates could further reduce benefits.

FAA's air traffic growth forecasts have also historically overstated actual traffic growth. The MITRE study projected continuing high growth rates beyond FAA's forecast period. This could further inflate future air traffic estimates. Air traffic growth affects all categories of benefits, and to the extent air traffic growth is lower than predicted, benefits would also be lower. Finally, significant uncertainty also exists about the AAS cost growth; the program has already encountered significant cost growth (at least 50% in the design competition phase), and, as we pointed out earlier, FAA's acquisition strategy increases the risk of further cost growth.

SUMMARY

Under the best of circumstances, the technical and operational risks associated with developing the AAS are high. The software and other key AAS components are extremely complex and some of the technology required is pushing the state of the art. Combined with these are the technical and operational challenges associated with the dramatic change in the way air traffic will be controlled, which serve to increase these risks. Interdependency of systems critical to the AAS (Host computer, Mode S, and Voice Switching and Control System) increase AAS risks. The economic risk of a $3.2 billion investment in AAS will make any major development problems encountered economically significant.

FAA's two-phase acquisition strategy differs from that recommended for the acquisition of major systems like the AAS. Rather than minimizing risks using a four-phase process with successive approvals based on demonstrated results and extended competition, FAA incorporates only one decision point before committing to a combined development, test, and production phase. This combined phase incorporates full production of the most costly element, the controller workstation, concurrent with the development of the most complex software and hardware elements. FAA will have only system designs, limited workstation console demonstrations, and unvalidated performance simulations on which to base its production decision, because actual development will not have taken place and performance tests are thus not possible. With the technical risks and the economic stakes involved, we believe this represents an unacceptably high risk to the government.

Further, FAA's current benefit estimates for the AAS are questionable and an independent cost estimate has not been prepared. Based on our analysis, the resulting low benefit to cost ratio clearly does not justify an accelerated acquisition strategy--that is, one that requires production of the controller workstations concurrent with the development and testing of all other complex components in order to install them early. We are not arguing against introducing the new workstation before the full AAS is implemented, only against rushing into full production of the workstation before the rest of the system has been developed, tested, and its performance proven.

We continue to believe that follow-on air traffic control automation is needed to address system needs, potential improvements, and deficiencies not corrected by the near-term Host computer system program. However, the capacity and capabilities provided by the Host computer systems should provide the time needed to properly develop the AAS. We believe that incorporating a development and testing phase before the AAS production decision would be a more prudent acquisition strategy.

Introducing another phase into the acquisition strategy, thus permitting operational performance testing of critical elements (including the controller workstation and en route AAS hardware, software, and communications technology) would improve both the basis for the production decision and the final design for full-scale production. Reduced concurrency of production of the controller workstations with the development of software and other complex components would serve to minimize both technical and economic risks. We believe that a development and operational testing phase, without concurrent production, needs to be incorporated into the FAA's acquisition strategy to reduce risks. We estimate that FAA's current development and test schedule would provide significant system performance information to make a more prudent production decision about 2 years later than their currently scheduled decision point. Thus, it would not require the 40 months time claimed by FAA. In addition, optimizing the schedule to develop and test critical elements early could provide even more information in that timeframe. We believe that continuing with the current strategy, especially without the operational testing of Aera functions, could result in significant performance and reliability inadequacies, cost increases, and unrealized benefits.

House Joint Resolution 465 on Further Continuing Appropriations for Fiscal Year 1986 directed FAA to complete a realistic benefit/cost analysis. This analysis, supplemented by operational simulation and testing of the new Aera functions, should be very valuable to the Congress prior to making its major funding commitment.

PROPOSED COURSE OF ACTION

We plan to do additional work on the AAS program and related systems. However, based on our work to date, we believe changes are needed in FAA's program in order to minimize the risks of the AAS acquisition and to ensure that the AAS effectively meets the future safety and efficiency needs of the nation's air transportation system. Therefore, we believe the Congress should consider directing FAA to:

(1) revise its current acquisition strategy to incorporate a contract phase to develop and operationally test prototype models of critical components under realistic conditions before the decision and contract are made for full production quantities. At a minimum, critical components should include the controller workstation, en route AAS hardware and software, and the local communications network;

(2) reexamine the AAS features and requirements to identify the most inexpensive and cost-effective alternatives and to revalidate its requirements before proceeding to the development and testing phase; and

(3) verify the benefit estimates and the operational suitability of Aera 1 and 2 functional enhancements by operational

simulation as soon as is practicable and before proceeding with the full-scale production.

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This concludes my testimony, Mr. Chairman. I will be pleased to answer any questions that you or others may have at this time.

OVERALL OBJECTIVES AND SCOPE OF GAO'S WORK ON FAA AIR TRAFFIC CONTROL COMPUTER MODERNIZATION PROGRAMS

In June 1983 the Chairman, Subcommittee on Transportation, House Committee on Appropriations, asked GAO to monitor FAA's implementation and management of the $12 billion National Airspace System Plan. Two GAO divisions--the Resources, Community, and Economic Development Division (RCED) and the Information Management and Technology Division (IMTEC)--are conducting this review.

The Chairman asked IMTEC to focus on the automated air traffic control programs. In June 1985, we reported[1] on FAA's short-term Host computer system and recommended that the Secretary of Transportation consider deferring the production decision and performing more realistic performance tests. In another report,[2] we expressed concern about FAA's Advanced Automation System (AAS). The House Appropriations Committee directed FAA to respond to both reports. The Transportation Secretary reviewed our Host computer concerns and determined that risks from not conducting performance testing were not sufficient to warrant delaying the Host program. A January 1986 letter to the Chairman responded to our AAS concerns stating that the AAS acquisition strategy is sound and will not be changed.

In October 1985, the Subcommittee rquested us to provide our observations on the soundness of FAA's AAS investment decision from a technical, economic, and managerial perspective, including the soundness of the agency's benefit/cost analysis. The Subcommittee later asked that we also assess FAA's January 1986 response to the Chairman.

To respond to the Subcommittee's request that we review the AAS benefits and costs, we analyzed the most current benefit/cost information available. We evaluated FAA's 1982 Response to the

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[1] Federal Aviation Administration's Host Computer: More Realistic Performance Tests Needed Before Production Begins (GAO/IMTEC-85-10, June 6, 1985).

[2] GAO Questions Key Aspects of FAA's Plans To Acquire the Multi-Billion Dollar Advanced Automation System and Related Programs (GAO/IMTEC-85-11, June 17, 1985).

Congress and the 1985 unapproved draft MITRE benefit/cost analysis of the advanced automation program. Our work in the benefit/cost area primarily focused on the appropriateness and support behind claimed AAS benefits. Because AAS cost estimates were being revised by FAA, we did not attempt to validate the cost estimates used in FAA's benefit/cost analyses.

To respond to the Subcommittee's question on the technical, economic and managerial soundness of the AAS, we conducted our work primarily at Department of Transportation and FAA Headquarters in Washington, D.C., and at FAA's Technical Center in Pomona, New Jersey. We also worked at the MITRE Corporation in McLean, Virginia; Computer Technology Associates, McLean, Virginia; RCA, Moorestown, New Jersey; and Martin Marietta Corporation, Washington, D.C. We reviewed FAA, contractor, and subcontractor documents on the planning, management, and design of the AAS. We reviewed literature related to the use of performance models and discussed the use of models with an official of the Federal Computer Performance and Simulation Center. We also interviewed Transportation, FAA, and contractor officials.

MAGNITUDE OF AAS PROCUREMENT

Mr. **Lehman**. Well, Mr. McLure and Dr. Palmer, your testimony was certainly impressive.

Dr. **Palmer**. Thank you, sir.

Mr. **Lehman**. In fact you probably told us more than we wanted to know, but——

Dr. **Palmer**. Sorry for the length.

Mr. **Lehman**. But it is a big responsibility because this is the largest acquisition ever contemplated by the Department of Transportation to my knowledge.

I would like to ask you several questions. The first will be to Mr. McLure.

NEED FOR AIR TRAFFIC RESTRICTIONS

Mr. **Lehman**. In your report on the air traffic control work force, you recommend that FAA impose restrictions on air traffic. What kinds of restrictions do you believe are appropriate at this time?

Mr. **McLure**. It is important to understand that we never contemplated an across-the-board limitation on commercial traffic. What our work shows is that some of the controllers, particularly in the en route control centers are overworked, particularly at certain times during the day, and that FAA ought to control the traffic moving into and out of the sectors that those controllers work, to make sure that they are not having to do too much work for too long a time. Now, FAA has the means to do that. They have what they call flow control that they use, and they believe that the flow control they are using is adequate to do what we are talking about.

However, our survey showed, and the controllers and their supervisors, 85 percent of the controllers and over 70 percent of the supervisors, told us that the flow control procedures that are now in use are not adequate.

Mr. **Lehman**. Are what?

NTSB POSITION ON RESTRICTING TRAFFIC

Mr. **McLure**. Are not adequate, and that they are having to work too hard during certain times of the day. So what we think FAA ought to do is improve its flow control process, to do better the things that they say they are already doing.

Now NTSB recently issued some information to this subcommittee that said essentially the same thing. What it says is, currently, FAA's flow control program measures ATC system capacity in terms of the airport acceptance rate, and that limited traffic levels are established when specific airport acceptance rates are reduced because of the weather, or so forth.

However, the saturation level, as determined by controller human performance limits, is not reflected in the present traffic management programs. FAA must define the traffic level which can be safely handled by each sector controller and include this factor in an automated traffic management program, a program which is dynamic and sufficiently flexible to limit system access, or re-route traffic as necessary to avoid en route sector, terminal area, or airport overload.

So essentially, NTSB is saying the same thing. We are saying that you need to focus on the en route centers. You need to limit the traffic that moves through particular sectors. You may have to revise some of your sectors.

But we are not suggesting that they cut ten percent of the traffic, or anything like that.

Mr. **Lehman**. It means that you change the departure hours, so that the peaks of the early morning and late afternoon would be more evenly spread out, as they did after the controller strike.

Mr. **McLure**. Sure.

Mr. **Lehman**. And FAA has the authority to do this?

Mr. **McLure**. Yes.

Mr. **Lehman**. If they so choose.

Mr. **McLure**. Yes.

PART-TIME CONTROLLERS

Mr. **Lehman**. On the other side of the coin, there are now peak periods—and my assumption is that the peak periods are usually during the early morning or late afternoon. Have you analyzed the possibility of adding more part-time air traffic controllers who would be scheduled to work the peak periods and be there only when the need is there, rather than all day?

Mr. **McLure**. We did not consider that. I certainly think it is something FAA should consider. FAA of course are the experts on this thing and it is really their responsibility to figure out what to do. Both their own work and our work over the past three or four years have shown that this problem exists, and needs correcting.

GAO CONTROLLER QUESTIONNAIRE

Mr. **Lehman**. I think we will look into that later on today, but there are two ways you can deal with it.

One of two major sources of information on that report was a questionnaire survey of controllers, supervisors and managers. You indicate you provided a draft questionnaire to FAA for comment, but they made no substantive comments.

Did FAA give any reason for not commenting? And how confident are you in the validity of your survey?

Isn't it likely that most people will say that they are overworked rather than underworked?

Mr. **McLure**. Well, first, we are completely confident that our survey is absolutely valid. First of all, we tested it very carefully and we used all of the proper procedures for putting a questionnaire together.

More importantly, we did not just send it to the controllers. We sent it also to their supervisors, and to the managers of the facilities, in order to cross check what they were sending us, and I think it is very important to note that the supervisors as well as the controllers think they are overworked.

Mr. **Lehman**. Maybe you ought to send it to the spouses of the controllers.

Mr. **McLure**. Well, that would be another interesting check. As far as FAA reviewing the questionnaire, we did send it over to them. We conversed with them, and the person we talked with said that they did not think it was worth commenting on because it was another questionnaire survey and they already had a lot of them, and they knew what it was going to say; essentially those words.

I would like to note that that was not a response from Admiral Engen, or, you know, the top management of FAA; that was a response from the people that we sent the questionnaire—the experts in that area who would have reviewed the questionnaire.

So I hope that if Admiral Engen had seen it, that we would not have gotten that same response.

Mr. **Lehman**. There is no way that you can work out a control group to compare this to, is there?

Mr. **McLure**. Well, we did test the questionnaire with small groups before we sent it to everybody, and we examined first whether they could answer the questions, how long it took them to answer the questions, and the quality of their responses.

And then we made adjustments where we saw that the questions needed to be adjusted. But as far as a control group in the sense of seeing whether they are improving things, we have not done that; we really do not have the resources to do that.

HIRING MORE FAA INSPECTORS

Mr. **Lehman**. It is clear that the airlines are reducing the emphasis they once put on maintenance. DOT's figures indicate that in 1978 airline maintenance expenditures were almost 11 percent of their total operating expense. By 1984 maintenance expenditures had been reduced to 7.6 percent of the total operating expenses. This situation becomes more serious when coupled with the fact that the number of carriers has nearly doubled since enactment of the deregulation legislation and the fact that the fleet age has increased.

In view of these facts, I wonder whether 300, 500, or 1,000 additional inspectors even if properly trained and motivated can do the job or should FAA be looking for an entirely different approach to this problem. What are your feelings on this?

INSPECTOR STAFFING STANDARDS

Mr. **McLure**. Well, we certainly do not think that FAA should just throw up its hands in despair. There are a number of basic things that they need to do.

One is they need some standards as far as what the work force can actually do in the way of proper inspections of the things that they need to inspect. We are doing work that should come out before too long that shows that there are also adjustments that FAA can make in measuring the effectiveness of their inspections.

Right now, the only measurement that people seem to cite is the number of accidents airlines are having.

We think that is the least effective measurement. You need to measure things short of an accident, because the accident is the thing that you are trying to avoid. So, they need to predicate their inspection requirements on measurements other than just this accident thing. And they do, but we think that they can do it a lot better.

INSPECTOR PRIORITIES

They also recently changed their priorities for inspections for the inspector work force. Until recently they were placing a lot of emphasis on certifying new airlines and since you were using the same people to do inspections and certifications, the more new airlines you certified, the fewer inspections you could do. They recently issued a policy directive to change that mixture around and we think that they should manage that very carefully to make sure that they do the increased number of inspections.

NAS PLAN DELAYS

Mr. **Lehman**. According to FAA, most of the slack contained within the individual NAS plan program schedules has been taken up, thereby placing the overall NAS plan schedule and realization of the plan's projected benefits in jeopardy. Your testimony today strongly suggests that Congress take additional actions that could further delay funds for the production of certain NAS plan technologies.

Why should not FAA proceed to production of these technologies now, and if they do not, what happens to the projected benefits of the NAS plan?

Mr. **McLure**. Yes, I would like to acknowledge that it is a very difficult management problem that they have because they are trying to do it as fast as they can.

But every program that we have looked at, and this testimony has five examples in it, every program that they have worked with where they have tried to expedite the thing, they have run into schedule delays and cost overruns.

Now, it seems to me that what they are doing is not getting them where they want to go. Now, on the other hand, A-109 is designed to handle major acquisitions and it is designed to do it in a way that will expedite the process and make sure that after you spend your money, you have got something that works. And so, what we are really saying is that they really ought to adhere to the A-109 procedures and make sure the things work before they commit themselves to a full purchase. And while certain steps will take longer, we think that it makes a lot more sense to do that than it does to wind up with something that does not work and have to go back to the beginning.

NAS PLAN ADJUSTMENTS

Mr. **Lehman**. The nature of the aviation business has changed since the NAS plan was first initiated. Besides deregulation, the rise of hub and spoke terminals——

Mr. **McLure**. Right.

Mr. **Lehman** [continuing]. The fall of the price of fuel, the relative increase of commuter planes where other air carriers did not fly in.

Do you think that these changes should change the direction of some of the components of the NAS plan?

Mr. **McLure**. Sure, I think so. For example, the much wider personal ownership of personal computers means that many pilots can get things directly from FAA that in the past FAA has had to have somebody there to answer a phone and talk to a person. Now, pilots can get the stuff with their computers.

And much of the work that Charlie has done has shown that technology is changing even while we are going through this procurement project. And as we get out, you know, five or seven years into the thing, it is true that a different technology exists that may do the thing better than what they started out to buy.

Charlie, do you want to add anything to that?

HUB AND SPOKE IMPACT ON FAA

Mr. **Cotton**. They have tried to adjust certain acquisition schedules, certain acquisition plans such as MLS to account for the hub/spoke concept. But what we have found is that the hub/spoke concept is one of the factors that is putting increased pressure on controller work loads. And it is also having an impact on the controllers' ability to disseminate severe weather information and other important functions that are less important to a controller than separating aircraft, but still important to aviation safety.

Mr. **Lehman**. It is another component that was not there when it started.

Mr. **McLure**. Correct.

NAS PLAN ADJUSTMENTS

Mr. **Lehman**. Well, you know, the trouble with these huge acquisition plans, such as NAS, is like acquiring weapons systems to fight the last war, which is too often the case in this country.

Mr. **McLure**. I would like to point out that there really is not any question though, that they do have to redo the system. It is 30 years old, and it is based on really old technologies, and they certainly need something.

We are not saying that they should not have a NAS plan. We are saying that they should try to do it as well as possible.

Mr. **Lehman**. And meet the needs as they are changing.

Mr. **McLure**. Right.

TERMINAL DOPPLER WEATHER RADARS

Mr. **Lehman**. FAA's budget justification states that initial terminal doppler weather radar operations capability will be achieved using NEXRAD systems modified for terminal use. Have you not testified in the past that NEXRAD is not a terminal system and in view of this—is FAA's proposal realistic?

Terminal in the sense of "station", not in the sense of "death". [Laughter.]

Mr. **Cotton**. On October 1st and October 2nd, of last year, we testified on the NEXRAD and terminal doppler systems, and pointed out that the systems are intended to meet different objectives and are in different phases of development.

Many of the problems that we are facing in NEXRAD—technological problems that are facing NEXRAD have been solved. And FAA and Commerce are ready for the NEXRAD deployment.

However, technological problems relating to terminal doppler weather radars, such as ground clutter suppression, update rate and the need for a totally automated system as opposed to NEXRAD which would have a meteorologist there, have not been solved. And now, given enough time and resources, FAA could come up with technical solutions to those problems and probably incorporate them into a modified NEXRAD or what it views as its optimal terminal doppler weather radar system.

Right now, we do not know and I do not believe that FAA knows either, whether or not that can be accomplished within the time frame and the acquisition strategy that FAA is proposing.

COSTS OF EXTENDED AAS COMPETITION

Mr. **Lehman**. We will move to Dr. Palmer.

With regard to the advanced automation system program, FAA has indicated that additional testing would add to the schedule, increase the cost and reduce or delay the benefits.

While you disagree with FAA's figures regarding the impact of additional testing, is it not correct that more testing will increase the cost and delay the benefits?

What do you believe the cost increase and benefit reductions will be?

Dr. **Palmer**. Yes, sir. We agree with the FAA that there would be a longer period to complete the overall schedule of the AAS acquisition in order to do a development and performance testing phase before committing to production.

The 24 to 27 months that we estimate that you need to get significant performance information out of testing, under the current schedule of tests by FAA, would cost around $200 million in our estimate.

The added contractor costs relates to having a second vendor perform the development and test phase. If you do it with only one vendor, there is no real additional costs and there is some schedule extension from one to two years.

In addition, we estimated, in terms of discounted 1982 dollars, what the two-year to 27 month extension would cause in terms of deferral of benefits. We see the total of $3.09 billion on column six of our chart being decreased by about $200 million. In terms of column seven, which excludes the passenger time savings, we would expect a $140 million decrease.

BENEFITS OF EXTENDED AAS COMPETITION

Mr. **Lehman**. On this two vendor concept, would that be competitive bidding you are talking about?

Dr. **Palmer**. Yes, sir. That would be extending competition and you would get the following benefits—one, the contractors would have a lot more knowledge—even one contractor would have a lot more knowledge—about what their production costs would be and how well their final design meets FAA's requirements. So, they should be able to trim down and not add risk into their price. Two, if you carry the two vendors, you have the benefit of risk reduction, in the sense that if one does not work, the other one may work well.

And three, you have the additional result of competition on price, especially if FAA adds an emphasis on cost to their evaluation factors.

Mr. LEHMAN. In other words, the extra cost may be worth it?

Dr. PALMER. Yes, sir, we believe it is. In the risk reduction and in added competition.

Mr. LEHMAN. And maybe even it will expedite it?

Dr. PALMER. Yes, sir, as I summarized it, I think that we have the time and money to do it right and I think that the taxpayers would pay for that. I don't think that we ought to take the risk, which I see as relatively high, of having to do it over again.

AAS COMPARISON WITH NAVY SUBACS

Mr. LEHMAN. To go to the SUBACS, you mentioned the SUBACS Navy program. Are they very comparable programs?

Dr. PALMER. Yes, sir, I think that they are very comparable. They are not the same, obviously, but some of the things about SUBACS, which is their advanced combat system for the submarines are comparable. One, it is a complex, real-time command and control system. And complex functions are being redesigned from old software and new complex functions are being added. They were going to be spread across a new distributed architecture, that ties together over 200 processors, on a state-of-the-art local communications network, processing real-time sensor information, much like the radars, only this is SONAR. It is a multi-billion dollar investment with phased evolution.

It also had an accelerated acquisition strategy that had concurrent "limited" production—not full production like AAS does—that was concurrent with their development and testing. The prime contractor was IBM, Federal Systems Division, and the subcontractor was Hughes—the two competitors in the AAS.

The use of paper designs and simulations were used to make the combined development and production decision. The software, the local communications network, and some pieces—critical pieces—of the hardware were high-risk factors, much like the AAS.

Unlike SUBACS, the AAS will have to communicate with other center systems and it will have to communicate with the former TRACON functions and to the towers.

Unlike SUBACS, the AAS will have to pull in weather data and other new data sources and display them on the controllers' screens. So, in these ways, there are some off-setting tradeoffs, but more complexity here.

Mr. LEHMAN. Mr. Coughlin?

GAO STAFFING FOR FAA ACTIVITIES

Mr. COUGHLIN. Thank you very much, Mr. Chairman.

Can you give us some idea of how many man-hours GAO spent this past year on studying, on perusing these studies that you are reporting on today?

Mr. McLURE. We budget, in my operation, about 50 staff years in reviewing all of FAA's activities. What we have testified about here, today, represents part of that, so probably 30 staff-years, something in that neighborhood.

GAO AIR SAFETY ASSESSMENT

Mr. COUGHLIN. And you have suggested that there should be some restrictions on flights in flow control areas. Is the bottom line of what you are saying, is that the system is not being operated safely at the present time?

Mr. McLURE. The bottom line is that really it is not as safe as it was.

Mr. COUGHLIN. The bottom line is that it is not being operated safely?

Mr. McLURE. Well, there is no effective measure of that. There are not more accidents now then there were before, but accidents—I mean, there are a lot of people out there trying to prevent accidents: including the pilots and everybody else.

But really, you need to measure important features that are surrogates for what allows an accident to occur. So, the fact that there is more traffic and fewer controllers, are surrogate measures for whether the system is actually safe.

But, we think that the controller work suggests that it is more likely now that a controller will find himself overworked with more traffic coming into the sector that he is comfortable controlling and that he may give an inappropriate direction to an aircraft. That does not necessarily lead to an accident. I mean the pilots are out there looking around too and they are trying not to run into each other.

But we do think that it increases the risk.

INSPECTION STAFFING NEEDS

Mr. COUGHLIN. You indicated that additional safety inspectors are needed, but the FAA is increasing inspection staffing without addressing some areas, such as the screening procedures, training and so forth.

I guess the question is, can we really afford to wait until these issues are resolved before we add inspectors? There is a problem out there right now and what do we do while these other problems are being addressed?

Mr. McLURE. No, I do not think that we can wait either. I think that FAA is very much aware of these problems and is beginning to address them. What I would do is to urge FAA to get on with that part of it. What they need to do right away, is to get a better handle on what they need in the way of skills and get something out there as a screen in its recruiting process just as soon as it possibly can.

In addition, I think that they need to get a better handle on what they actually need in the way of inspectors by improving their work standards for inspectors and also, to solidify their policy direction on what they should emphasize in the inspection process.

There is another thing that they can do and that is right now there seems to be somewhat of an imbalance in the kinds of inspections that they do from region to region. In one region, for example, they seem to have an overload of people who are skilled in inspecting avionics, and so they do a lot of avionics inspections in those regions. In other regions, they may do a lot of operations inspections. We think that they need to take another look at that and spread those people around so that they get a more even distribution, if they can.

PREMATURE PROCUREMENT FUNDING

Mr. Coughlin. Turning to the procurement questions that you testified to, are you telling us that with regard to the DUATS system and the AWOS system and the MLS and the terminal doppler radar—I think those were the four that you specifically mentioned—that this Subcommittee should limit the funding of that to R&D funding and provide no production funding?

Mr. McLure. Well, we do not mean that you should not ever provide production funding. We think that you ought to get FAA to demonstrate——

Mr. Coughlin. We are taking it one year at a time.

Mr. McLure. Yes. You have got to get FAA to demonstrate to you that the system they are intending to purchase actually works and that they know that for a fact.

Mr. Coughlin. But I am asking from your study of this, would you recommend this year, that we limit the funding for those specific programs to R&D funding and not production funding?

AUTOMATED WEATHER OBSERVING SYSTEMS

Mr. McLure. Charlie wants to add something to this.

Mr. Cotton. On a program-by-program basis. For example, the automated weather observing systems, the AWOS, they would be an improvement to the fact that you get no weather information at nontowered airports. And we have never questioned FAA's justification to ask for monies for AWOS at nontowered airports.

Where we would say that you should not appropriate monies, is if FAA came in and asked for monies at towered airports, because not only is that system less cost effective than the existing one, but it also could possibly degrade safety in the fact that it cannot meet several critical operational requirements that are now being met by the existing system.

So, in answer to AWOS, yes, they are asking this year for monies for AWOS's at nontowered airports.

Mr. Coughlin. And you agree with that?

Mr. Cotton. And I agree with that.

Mr. Coughlin. But they are not asking for monies at towered airports and you agree with that?

Mr. Cotton. I agree with that also. That is right.

Do you want to work down each one?

Mr. Coughlin. I guess we had better do it now or for the record.

TERMINAL DOPPLER WEATHER RADARS

Mr. Cotton. Okay, for terminal doppler weather radar, they are asking for money to acquire 15 NEXRAD modified systems to be placed in terminals and to function as an interim solution to the problems that the optimum terminal doppler weather radar will solve.

Okay, we have taken a look at the research being done by NCAR and others, and the problems that they have experienced in solving technical problems such as ground clutter, okay, and the fact that an NEXRAD can be located out somewhere where there is not a lot of ground clutter, while terminal doppler weather radar has to be located on or near an airport.

And we have also taken a look at the problems that they are having with the update rate, because it is no good having an update rate of five to ten minutes, when a wind shear, or a microburst, in particular, occurs and is gone within one to two minutes. And you need an update rate—I have forgotten what FAA says—but somewhere in the neighborhood of like 35 seconds.

Mr. COUGHLIN. So what are you suggesting?

Mr. COTTON. So what I am suggesting is that I would question FAA at these appropriation hearings whether or not they have developed technical solutions to these problems before I would take and give them monies to procure any system to be placed in there.

And the reason for that is that as soon as you place them in there, you have controllers and you have pilots and they are making life-critical decisions on the information that is coming from those terminal doppler weather radars.

And quite frankly, we would like to make sure that those things work before people start making those decisions.

Microwave landing systems?

MICROWAVE LANDING SYSTEMS

Mr. COUGHLIN. Let's go on to that.

Mr. COTTON. Okay. Microwave landing systems. They originally expected that the Hazeltine 2500 system would meet FAA specifications, when in fact, it has not. And Hazeltine has informed FAA recently that they intend to contract out for the software development. Right now, that means that MLS, an MLS that will meet FAA's system requirement statement and system specifications, okay, is not ready for production. So I would feel very uncomfortable giving them money to produce a system for which the software is not even ready yet.

Because, quite frankly, I reflect back on the Model I program for the flight service station automation, and how we gave them money for the hardware, for the computers that have sat in bonded storage for a number of years and are just now being used as the Model I software has become available.

I do not know if that is an effective way of doing business.

What is the last one?

DIRECT USER ACCESS TERMINALS

Mr. COUGHLIN. DUATS.

Mr. COTTON. Direct User Access Terminal Systems. This Committee was on top of that, is on top of that and has asked FAA to go back and take a look, really, at the three available options. The option being developed by E-Systems as a part of the Model I/

Model II contract, and the system being developed by the Tech Center, and systems that are already available and being used, not only by states, but by at least two FAA regions, that are available from commercial vendors.

Now, we reviewed their draft report that was provided to this subcommittee in December of 1985, and found that the system that they recommended, the E-System system, was not even reviewed by the study team that they attributed the recommended option to.

We also went back and looked at the criteria that they used to determine performance capabilities and time and risk and found that the data there was extremely weak and the fact that they never went out to get prices to factor costs from the vendors.

And the work that we have done to date really leans toward a commercially available vendor option to providing direct user access terminals.

So, for me, if they came in with anything other than a recommendation that they go with commercial vendors, I would seriously question it, referring back to the testimony that you have in front of you.

NEW AAS COST/BENEFIT STUDY

Mr. **Coughlin**. Let me turn to Dr. Palmer for a moment.

Doctor, you questioned the benefits of the AAS program. As you know, the statement of the managers accompanying DOT's Fiscal Year 1986 appropriations bill directed a new AAS cost/benefit study.

Do you know if the FAA has completed that study, have they consulted with you on that study, and do you know what the status of it is?

Dr. **Palmer**. Sir, yes, we supported the staff in constructing that recommendation. The important point is that FAA has just started. I think that they set the members of the study team within the last month and their steering committee was just formed and held its first session this past week.

We were invited to be a member of that steering committee, and I am writing back to them—the letter is in the mail now—declining that invitation. I think that it would compromise our independence in advising this Committee to be a member of that.

However, we will fully cooperate and share the results of our analysis. We have looked at all of the cost/benefit information that is available and we would be glad to share that with them.

Their study is not scheduled for completion until next year. Hopefully in time for your big decision on production money with regard to the AAS, as opposed to the host, which is also in the same program element, will come next year. Our reason for getting up here with our recommendations this year, is to try to get them to you so that you can consider them and whether you want to ask FAA for something different—without asking for a last minute type of change in the program.

Hopefully, that cost/benefit analysis, that they are preparing now, will be ready for your decision next spring.

AAS PRODUCTION FUNDING

Mr. **Coughlin**. And with regard to the AAS, are you saying that production funding for the work station should go ahead, but other production funding should be limited?

Dr. **Palmer**. The production funding—I do not believe that they will be asking for production funding for the AAS this year—that would be as a part of——

Mr. **Coughlin**. How about for the work station?

Dr. **Palmer**. For the work station, I do not believe that they are asking for any money for that this year. The next year's request would probably contain that. I would say no on any production monies with respect to the controller work station or the AAS should they be in there.

HOST TESTING DELAYS

On the host, they are in the midst of testing the host now. Or I think that they have started testing. We are also performing an update review on that host program for the Committee and the preliminary indication is that they are behind schedule in getting to testing of the host computer system—with the full performance testing. Right now, they are asking IBM for some kind of a "get well" plan, that is, how they are going to get back on schedule and finish the testing properly.

So, I guess I have some reservation about the production money there—but I think that you are safe in assuming that it is ready to go. It is a matter of having some problems with the software.This is exactly what we worry about in the AAS—software development problems and conversion over to the new system.

Mr. **Coughlin**. Thank you, Mr. Chairman.

Mr. **Lehman**. Mr. Durbin?

CONTROLLER SHORTAGE

Mr. **Durbin**. Thank you, Mr. Chairman.

Mr. McLure, in your statement you indicated that we have a controller shortage. Can you give me any reasons why this has occurred?

Do you know why we have such a shortage today?

Mr. **McLure**. Yes. It all goes back to the strike and the fact that FAA has been trying to rebuild the controller work force. This is not a problem that they have not recognized or not tried to do anything about.

But there are limits to how fast you can build and traffic growth has really exceeded their capability to build the work force fast enough. It takes several years to train a controller and in the time since 1981, they simply have not trained as many controllers as they need.

ADMINISTRATION POSITION ON CONTROLLER STAFFING

Mr. **Durbin**. Do I not recall statements from the administration during that air traffic controllers strike, after the decision was made to terminate so many controllers, that the public need not worry, that the level of safety would be maintained with the controller resources available?

I thought I heard that repeatedly from the administration?

Mr. McLure. Well, they still maintain that that is the case. And of course, the way that they did it at the outset was to limit the amount of traffic that the controllers were having to handle and to spread that traffic out during the day. They took most of those controls off in recent years, so that what they are trying to do is to let the market determine how much traffic there is and where it goes, which we think is a good idea, if you have got enough controllers to do that.

Based on our work, we think that many of their controllers are over-worked right now, and that they probably need to reinstitute some of the kinds of controls that they had originally.

ADMINISTRATION MISJUDGMENTS ON CONTROLLER STAFFING

Mr. Durbin. It seems that some serious management mistakes were made if they decided to allow the market to establish the flow of traffic and they did not have the controller resources to deal with it.

Mr. McLure. Well, that is the way it seems to some, yes.

Mr. Durbin. Do you agree?

Mr. McLure. They misjudged, I think, the amount of work-load that the controllers were going to have to assume during certain times of the day and they have not been able to keep up and so, if that is a management misjudgment, then that is what happened, yes.

Mr. Durbin. It sure points in that direction, does it not?

Mr. McLure. Yes.

AVIATION TRUST FUND BALANCE

Mr. Durbin. What about the expenditures of money in the Aviation Trust Fund? Does that have anything to do with this directly or indirectly?

Mr. McLure. Well, there is a big balance in the Aviation Trust Fund?

Mr. Durbin. About $3 billion or somewhere in that neighborhood?

Mr. McLure. Yes, a shade over $3 billion.

What we think about the Trust Fund is this. It is a fund that has been built up from a certain kind of a tax. And purportedly to be used for certain kinds of reasons, although it is not clear that there was any specific limitation on the way that the fund could be used. But the fund actually becomes a reduction of the deficit in our present budget situation. Whether you use funds out of the trust fund or funds out of the general revenue, does not really make a lot of difference as far as the fiscal position of the Federal Government.

So, the question that this Appropriations Committee seems to me has to answer, is, are the appropriations that they are asking for justified and needed, and can they use them effectively, not where the money comes from.

AIR SAFETY TREND

Mr. **Durbin**. Well, I agree that the bottom line is whether the resources are spent where they are needed to guarantee aircraft safety. But when you have a situation where every passenger that purchases a ticket is paying a dedicated tax for a specific purpose, and in fact, the resources are not being spent, but accumulated, for whatever reason, then that user is not getting what he is paying for. I have some serious concerns, that we have, in fact, continued to tax airline passengers for services which the Federal Government refuses to render for budgetary reasons.

The bottom line comes out in the area of controllers and inspectors. We are not keeping up with the flow of traffic and frankly, that concerns me.

I may be like most Member of Congress, acutely and intensely, and personally concerned about air safety because it seems I spend most of my life on airplanes.

I am going to ask you to do something that you probably do not want to do, but we have to use shorthand approaches. Based on your study of air traffic controllers and inspectors, in your professional opinion, is it safer or more dangerous to be an airline passenger in 1986, than it was in 1985?

Mr. **McLure**. Well, they had the problems in 1985, so I do not think that it makes a lot of difference.

Mr. **Durbin**. Is it just as bad or is it better? I want to get you to some point here where we can find out whether we are improving a situation or watching it get out of control?

Mr. **McLure**. The one measurement that I am confident of is that the system is not as safe now as it was in 1981, based on the controller work loads. Whether the system is changing from year to year, it certainly is within FAA's capability to make the system safer this year, as far as air traffic control, because they have a flow control mechanism that they can use effectively.

The controllers tell us that they are not using it as effectively as they can, but nevertheless, we think that they have the capability to do that.

As far as inspections, we also think that there are ways with the work force they have now, that they can do a better job of surveillance over the operating airlines. Now, when you make any change like that, there are costs associated with it and one of the costs, for example, of putting more emphasis on surveillance of airlines is that it will make it much more difficult for new airlines to get certified to operate.

Nevertheless, we think that is a reasonable tradeoff and FAA is a little unique in the way that it approaches certification anyway. I mean it is one of the few parts of the government that provides as much help as they do to new entrants into the business.

So, we think that they can make some adjustments to make things safe in 1986. We think that the bottom line, which FAA refers to, which is the number of accidents, still is quite good and they are having good results. We do not think that it is necessarily because FAA is doing all the things that they could do.

MARGIN OF SAFETY

Mr. Durbin. I just wonder—in part of your testimony, you have alluded to statements made by other people about the safety of the system. That is, I think, a good way to go. If you have to make a statement, refer to others. I just want to know if you basically agree with them, that we should have serious concerns about the ability of the controllers to maintain the proper margin of safety, due to their high work load?

Mr. McLure. Oh, yes, absolutely. I think that we could have come to that conclusion without surveying the controllers at all, just based on FAA's own data, about how much work the controllers are doing and where they are being impacted and what their experience levels are and that sort of thing.

So the questionnaire that we sent out to the controllers certainly helped in enriching the meaning of that data, but FAA's own data certainly says that.

FLIGHT SAFETY FOUNDATION'S AIR SAFETY ASSESSMENT

Mr. Cotton. I would just like to add one thing to that. GAO's saying whether or not the system is safe or that the level of safety has diminished, okay, could be discounted in the fact that none of us are aviation safety experts. But one of the things that we did on the controller job is to hire the Flight Safety Foundation, who has credibility not only within FAA, but within the international aviation community, to take a look at what we found and compare it with the study that they had done for FAA in 1981, after the strike and tell us and tell everybody else whether, in their opinion, the level of safety had degraded. And their answer was, yes, it has. It is less safe today than it was then.

FAA MANAGEMENT DECISIONS AFFECTING SAFETY

Mr. Durbin. So what you have said is that the two basic decisions that the Administration made—to fire the air traffic controllers and to move forward on deregulation—have meant a decline in safety for airline passengers in America?

Mr. Cotton. There is a third factor as well. One assumption that FAA made, was that the efficiency benefits to be derived from the automation in the NAS plan would come and become available a lot sooner than they will now. So, therefore, you did not need more controllers and more inspectors. Now, that has not occurred, and that is one of the reasons, really, that they fell behind in their efforts to keep up with air traffic activity. They made an assumption that has proven false.

Mr. Durbin. As I listen to the testimony about poor management decisions concerning air traffic controllers and how the flight load is going to be distributed across our country, the improper anticipation of technological improvement, it all adds up to the fact that it is not as safe today to get on an airplane as it was in 1981, and maybe last year.

I think if that is the case, our Committee has a special responsibility here, in terms of safety. I gladly greet the pilot when I get on the plane and smile at him as I get off. He is not the one that I am worried about any more. It is the people that I do not see that I am starting to worry about, and your testimony has increased my worries.

Thank you.

Mr. **McLure**. I would like to go back to one thing and that is the decision to fire the air traffic controllers. We do not think that that, in itself, needed to have an impact on safety. FAA has the means to reduce the traffic flow so that whatever controller work force they have, they can adjust the traffic flow to fit that. So I do not think that you should focus in on that. I think that it is the result of the traffic buildup, without sufficient controls at the time.

Mr. **Durbin**. Thank you. And thank you, Mr. Chairman.

Mr. **Lehman**. Thank you, Mr. Durbin.

Mr. Wolf?

CONTROLLER MORALE

Mr. **Wolf**. Thank you, Mr. Chairman.

I apologize for not being here earlier, but I was at another hearing where Mr. Miller from OMB was testifying. So if I ask any questions that were already asked please forgive me.

I will try to be really quick. What are your comments about the air traffic controller morale?

Mr. **McLure**. Well, the morale based on our questionnaire results is not very good at all, and FAA has done at least three studies in the past few years, that say the same thing. Now, the morale, obviously that is a soft kind of thing to try to measure. What the controllers said to us, very consistently is, that we have a problem—we are doing more work than we think we are comfortable with and we see that FAA has within its means solutions to the problems we are having. We would like to work within the system at FAA, to work those solutions out. And what they are hearing from FAA seems to be, well, that there is no problem, that the controllers can do what we are asking them to do and that is that.

Well, that kind of response, by itself, has a real effect on morale and we are concerned that maybe this thing that we have raised with our report, actually has increased the morale problem, because it gave FAA an opportunity to make it again clear to the controllers that they do not think that they should listen to them.

CONTROLLER RETIREMENTS

Mr. **Wolf**. I have figures showing that with the tax bill that passed the House—are you familiar with the three year basis recovery rule which would then tax annuities, that the——

Mr. **McLure**. Yes.

Mr. **Wolf** [continuing]. The FAA would lose a lot more people. Do you have any comments on that?

Mr. **McLure**. Yes. They told us. Actually the controllers in their responses to our questionnaire were responding to the possibility of there being a change in the retirement system—the age at which they could retire, and how many years service in the computation and so forth. The tax proposal did not exist at that time, and in my judgment, the tax proposal will have the same kind of effect on them. There are many controllers out there who will be eligible to retire in the next couple of years and are eligible now.

There are many, many supervisors, some en route centers will be very hard hit. And I think if the tax provision goes through, it puts a lot of pressure on those people to retire because it is money out of the pocket.

CONTROLLER PAY SCALE

Mr. Wolf. Would it help to have special pay rates for FAA air traffic controllers?

Mr. McLure. Well, I think, as far as the pay rates I do not see any reluctance, they do not seem to have trouble finding people who want to be controllers. So I think that the pay rates are probably okay. They also do not seem to have much trouble retaining the controllers, the skilled controllers after they develop those skills. So my guess is that the pay rate is not too much of an issue.

REGIONAL VARIANCES IN CONTROLLER PERFORMANCE

Mr. Wolf. Are there certain regions that are worse than others?

Mr. McLure. In terms of the number of controllers that they have?

Mr. Wolf. And the problems of not operating as well as they should operate?

Mr. McLure. The questionnaire that we sent out, we sent it out in a way that allows us to break down the responses by region and we are providing those to the various FAA regions.

There are some differences, although the basic things we are talking about are fairly consistent across the country. That the basic things, I mean, that there are not enough controllers; that the controllers that there are, are having to work more hours; and for longer periods at the scope without breaks than they think is proper; and than meets FAA standards.

Those results are consistent particularly in the en route centers, across the country.

Charlie, did you want to add something?

CONTROLLER PAY BONUSES

Mr. Cotton. I would like to add just two things. First of all, FAA has received a waiver from OPM that permits a new controller to go from a GS-7 to a GS-14 in approximately two years. So that is a way that FAA is using to bring in quality people, promote them to a level that kind of keeps them there.

The other thing is that there are some differences as Mr. McLure has said, in various regions, but it is also apparent within various facilities. Even within en route centers, there are some that have experienced a tremendous increase in work load with virtually no increase in the number of full performance level controllers, that they have on board.

And the problems that we have identified where they are consistent across the board, may be more acute at those locations than they are in general.

GAO CONTROLLER RECOMMENDATIONS

Mr. **Wolf**. I guess my two last questions are—one would be, if you were the FAA Administrator, what would you do differently?

Because my next question is going to be—so you can answer them at the same time—what does FAA say? I assume that you have sat down with FAA, with Admiral Engen?

Mr. **McLure**. Yes.

Mr. **Wolf**. Directly, what do they say about your recommendations? So, maybe you can fold those two questions together? What do they say and what would you do if you were the Administrator?

Mr. **McLure**. Well, I would not qualify to be the Administrator. I think that Mr. Engen is well aware of that. In fact, he has mentioned it to me a couple of times.

On the other hand, I think he is. I have a great respect for his experience and background and ability. And what I think FAA should do, certainly in the controller area, is to make it clear to the controllers that they are attempting to respond to the problems that the controllers have consistently identified over the past couple of years, and in a way that is obvious to the controllers. So that the controllers can see that there is a response.

Mr. **Wolf**. You seem to say that that is not happening?

Mr. **McLure**. FAA, Admiral Engen has told us that they believe that what they are doing is adequate. That the flow control procedures they are using are good enough to keep the system safe and that they do not have to do anything further and that they will move in their management of the system as they think is proper and they will make the decisions.

FAA ACCEPTANCE OF GAO ADVICE

Mr. **Wolf**. Could this be sort of a turf battle? I do not like anybody to tell me how to do things, but some times they tell me and they are right.

I think that every person should have a wise group of counselors that they can rely on because we are not always right.

Could this be a situation whereby the FAA really does not—are you a pilot?

Mr. **McLure**. No, I am not.

Mr. **Wolf**. So the FAA has some guy who is not even a pilot telling them what to do. Do you think that there is a little bit of them just not wanting to hear it from you guys?

Mr. **McLure**. Well, there may be, although Mr. Engen certainly understands and appreciates the position that we are both in. I mean, it is his job to manage the FAA and it is our job to take some time, look back at what has happened, and give a progress report. Now, we have the luxury of time that he does not have and that as a result, we pick up many things, that even FAA, if they knew then what they know now, they might have taken a different approach.

So, it is quite a different process we go through and I am reluctant to say they made fundamental mistakes or are making fundamental mistakes. I think that they they are doing well and I think that when they get the benefit of information that we can take the time to develop, that I think they need to be careful to use it wisely.

Mr. **Wolf**. Have they taken any of your advice, to date?

Mr. **McLure**. Well, yes. I think on the inspections and the inspector arena, for example, I think that they have been very receptive to our data and are moving in a way that should get them closer to where they need to go.

I think that on some of the systems acquisitions problems, while there again, they are trying to get the thing done as rapidly as possible, and I think they have indicated that they see, at least conceptually, what we are talking about.

Charlie, do you want to add to that?

EFFECTIVENESS OF FLOW CONTROL PROGRAM

Mr. **Cotton**. Just to relate the problem to controllers. First of all, they do not agree that further restrictions are needed. They feel that the flow control program, as it now exists, is working effectively. But both the responses to our questionnaire, and this recent study done by NTSB show that it is not.

They also have, in process, various programs that are intended to improve the flow control program at the en route centers. And it is E-load, ESP and a few others that I have right here.

And what these programs have suffered from, in recent years, is a lack of resources to implement them and if the question had been directed towards me, as far as what I would do, as the FAA Administrator, one of the things that I would do is to make sure that the programs that I say are needed to make that program work at the en route centers, are actually in place and working.

Mr. **Wolf**. No further questions, Mr. Chairman, thank you.

FAA'S PROCUREMENT MANAGEMENT CAPABILITY

Mr. **Lehman**. Thank you, Mr Wolf.

I just wanted to thank you again for the work that you have done and the many hours that you have put into this effort. Perhaps just to sum up, you have touched on some of the procurement management problems that sound familiar to the procurement fiascos coming out of the DOD. There are some who are urging us to significantly increase the F&E funding because of the $3 billion-plus in the aviation trust fund. Based on your work, do you believe the FAA could efficiently spend more procurement dollars than they now have?

For instance, would you be concerned about FAA's ability to manage a $1.5 billion F&E program for 1987 instead of the $825 million they have requested?

Dr. **Palmer**. We cannot answer for all of the programs that are in there. I think that the gist of your question is, is that a substantial, almost doubling of the F&E budget—could they manage that well?

We see some progress in that they are putting more of the A-109-like criteria and phasing in their acquisition strategies.

There are a lot of programs, though, that they do not plan to operationally test before they go to production. I, for one, would argue strongly against that. I think systems should be operationally tested before they go to production. I would see a large increase in the F&E budget would imply that they are going to go to production with these systems even faster and I would argue against that.

IMPORTANCE OF INSPECTORS

Mr. **Lehman**. One final question. We have talked about the air traffic control problems and the morale, the questionnaires that you gave them; but you have also mentioned the problems of the inspectors.

And to me that is where I see some of the real hazards—especially related to the misallocation of inspectors—some regions have too many avionics inspectors while other areas are not staffed with enough other types of inspectors.

There were no questionnaires sent out to the inspectors. There have been no statements about the morale among the inspectors. These are really two different problems at the FAA—air traffic controllers and safety inspectors—and to my memory, more accidents have been caused by mechanical failures and the like than have been caused by air traffic controller mistakes.

Would you say that the problem among the inspectors is greater, equal or less than the problem among the air traffic controllers? I have my opinion.

Mr. **McLure**. We will have a report out within a couple of months on the inspection situation and on the inspectors. However, we did not do the questionnaire survey of the inspectors and cannot comment on the morale and so forth, but the analogies are clear. I mean, they certainly have a lot of work to do.

Mr. **Lehman**. Well, if on a one to ten scale, if you had to put a number on the problems where would you place the two numbers for controllers and inspectors—or would you not care to make those kind of comparisons?

Mr. **McLure**. You guys have asked me a lot of questions that I do not feel comfortable answering.

Mr. **Lehman**. Well, I think that we really have a serious problem among the inspectors. It is not getting the same kind of attention that the air traffic controllers are getting and I think it has as great an element of risk, if not more so, than the air traffic controller staffing and training problems.

Mr. **McLure**. We think that they are equally important. We do not think that one is more important than the other. We think that we would put them both at tens. They are both vital parts of the air traffic system and vital to ensuring the safety of the system.

Mr. **Lehman**. And they both need an equal amount of attention?

Mr. **McLure** I think so, yes.

Mr. **Lehman**. Well, thank you again, for really a splendid piece of work and you are welcome to stay for the next performance, if you care; but in the meantime, thanks again, very much.

Mr. McLure. Thank you.

Mr. Lehman. There will be a five minute recess before we reconvene for the FAA.

[Whereupon a brief recess was taken.]

WEDNESDAY, APRIL 16, 1986.

FEDERAL AVIATION ADMINISTRATION

WITNESSES

DONALD D. ENGEN, ADMINISTRATOR

BROOKS C. GOLDMAN, ASSOCIATE ADMINISTRATOR FOR ADMINISTRATION

ROBERT L. DONAHUE, ASSOCIATE ADMINISTRATOR FOR AIRPORTS

WALTER S. LUFFSEY, ASSOCIATE ADMINISTRATOR FOR AIR TRAFFIC

E. TAZEWELL ELLETT, CHIEF COUNSEL

CHARLES E. WEITHONER, ASSOCIATE ADMINISTRATOR FOR HUMAN RESOURCES MANAGEMENT

DALE McDANIEL, DEPUTY ASSOCIATE ADMINISTRATOR FOR POLICY AND INTERNATIONAL AVIATION

ANTHONY J. BRODERICK, ASSOCIATE ADMINISTRATOR FOR AVIATION STANDARDS

FRANK L. FRISBIE, ACTING ASSOCIATE ADMINISTRATOR FOR DEVELOPMENT AND LOGISTICS

MARTIN T. POZESKY, ACTING DEPUTY ASSOCIATE ADMINISTRATOR FOR DEVELOPMENT AND LOGISTICS

NEAL A. BLAKE, DEPUTY ASSOCIATE ADMINISTRATOR FOR ENGINEERING

VALERIO R. HUNT, DIRECTOR, ADVANCED AUTOMATION PROGRAM OFFICE

JOHN R. RYAN, DIRECTOR, AIR TRAFFIC OPERATIONS SERVICE

EDWARD T. HARRIS, DIRECTOR, AIR TRAFFIC PLANS AND REQUIREMENTS SERVICE

FRED E. GILMORE, DIRECTOR, ACQUISITION AND MATERIEL SERVICE

JAMES A. WILDING, DIRECTOR, METROPOLITAN WASHINGTON AIRPORTS

PAUL W. PETERSON, ACTING DIRECTOR OF BUDGET

Mr. LEHMAN. Our next witness is FAA Administrator Admiral Donald D. Engen. Before you start with your statement, as you know, the Gramm-Rudman-Hollings legislation requires this Committee to report all of our fiscal year 1987 appropriations bills by June 10th. In order to meet this deadline, we need to complete our hearings and have them in print in a timely manner. This is an extremely difficult task when agencies such as yours do not submit budget justifications until April, more than two months after the President's budget was transmitted.

When it takes this long for you to submit the justifications, one almost has to presume that the dollar requests in the President's budget were determined without any justifications, and it has taken you more than two months to rationalize these amounts.

If this is true, in my view, it certainly reduces the credibility of your request. I recognize that this delay was not solely the responsibility of your agency, but I do want you to know that I believe it was unnecessary and truly unjustified.

Despite this, I am delighted to have you before this Committee and will be pleased to hear your statement at this time. You may read it or if you prefer to summarize it, and we shall insert your statement in the record.

OPENING REMARKS

Mr. ENGEN. Mr. Chairman, I again, welcome the opportunity to discuss our budget request. This time, of course, it is for fiscal year 1987.

This request recognizes the Adminstration's responsibilities to reduce the Federal budget deficit while maintaining the basic thrust of the national airspace system plan. The delay that we have experienced in getting our budget to you has really been one of wrestling how to go about taking the actions that we must take in view of Gramm-Rudman-Hollings.

I am submitting a full statement for the record, and I will summarize my statement this morning, with a few items of importance to me, sir.

AIR TRAFFIC CONTROL

On the matter of air traffic control, air traffic operations of the 22 pacing airports and the 20 continental United States Air Route Traffic Control Centers increased approximately 3 percent in calendar year 1985. Most important this increase in air traffic activity was accomplished with fewer delays in the summer of 1985 than existed in the previous year. Significant reductions in delays were reported at most of the congested airports as well.

While traffic was increasing and delays decreasing in 1985 operational errors also decreased by some 25 percent system-wide. We see air traffic continuing to increase at a moderate rate in 1986. And, I anticipate that it will be more difficult to reduce delays this year, but there will be continued improvement in the operational error rate as we develop new procedures and the work force continues to mature.

During fiscal year 1986, we are implementing plans to increase the controller work force further to 14,480. The fiscal year 1987 budget includes a controller work force employment goal of approximately 15,000 by September 30, 1987. The number of performance level controllers continues to increase and at the end of March, just this last month, there were 8,770 full performance level personnel and that was up some 455 in the last six months. We are hiring and training additional controllers and we will continue to increase the numbers and the experience of the controller work force.

HUMAN RESOURCE MANAGEMENT

In the area of human resource management, our human resource management organization is a key element in a purely rejuvenated agency. It is responsible for the human resource planning and development and evaluation and research. In short, it has the task of effectively managing FAA's most important resource—people.

We have made good progress. This organization's significant efforts include striving to change management style throughout the agency by increasing cooperative management where each employee has a voice. We have improved air traffic controller and aviation safety inspector training programs to increase controller trainee retention rates, as well as to accelerate qualifications of our inspectors. We have implemented a new rehabilitative approach to substance abuse as a part of an overall expansion of the agency's Employee Assistance Program.

NAS PLAN

In the matter of the National Airspace System Plan, during this past year, critical elements of that plan remained essentially on schedule. By the end of Fiscal Year 1985 we had awarded about 68 percent of the major NAS equipment contracts and some of the more significant accomplishments are very briefly as follows:

IBM was awarded an acquisition contract for the host computer. This is first phase of the automation and modernization program. This program will replace existing computer hardware with state-of-the-art systems.

To date, automated Flight Service Stations and their locations have been identified for 60 of the planned total of 61 sites.

Factory testing of the Model I system was completed at E Systems and it has been delivered to nine locations.

The initial Model I commissioning occurred in February of 1986 at the Cleveland family of facilities.

Now, there are development and system proving problems to be sure, but we are bringing on line a new concept and improved capability. Westinghouse Electric Corporation and Systems Development Corporation were awarded a contract for 79 Mode-S ground stations with an option for 59 more.

Norden Systems was awarded a contract for 17 sets of Airport Surface Detection Equipment, with an option for 13 additional sites.

And AT&T Technology Systems was awarded a five-year contract for the procurement of 312 radar micro-wave link installations with options for 692 additional sites.

With respect to our aviation safety inspector program, the Fiscal Year 1987 budget requests an additional 138 aviation safety inspector positions. This continues our major initiative of increasing the number of aviation safety inspectors.

In anticipation of these increases, the FAA increased its capacity to train inspectors in an improved and accelerated manner. Inspector orientation and job function courses have been reviewed and revised to ensure accuracy, validity and applicability.

New inspectors are enrolled in these revised courses shortly after employment and are completing all the requisite initial formal training within the first four months. We implemented a nationally directed mandatory work program which defines the minimum inspection activities necessary to ensure that we maintain knowledge of the safety and regulatory compliance throughout the aviation industry.

The GAO has recently completed at the request of the House of Representatives an audit of the FAA's oversight of maintenance and operations by the nation's commercial carriers.

The GAO audit closely paralleled and supported our studies which were underway.

AVIATION SECURITY

In the matter of aviation security, which I know is of special concern to you, sir, the FAA has used the additional funds provided by the Congress to significantly expand both its security work force and its research and development activity in the area of explosives detection.

Additional Federal Air Marshalls have been hired and trained and we are now providing enhanced security for U.S. citizens in international travel.

In addition, a number of significant actions have been taken to enhance the number and scope of security measures required at all airports, with particular emphasis though, on selected international airports.

TRUST FUND

With respect to the Airport and Airways Trust Fund, the Administration has proposed legislation to be effective in Fiscal Year 1987 to amend the provisions governing the Trust Fund share of the FAA's operating cost. The Trust Fund is projected to fund 75 percent of operations costs and the budget request assumes elimination of the so-called penalties provisions which ties the rate of operations funding to amounts made available for capital programs.

Also the Administration has proposed legislation to suspend investment of the Trust Fund in interest bearing U.S. securities.

FY 1986 OPERATIONS

With respect to Fiscal Year 1986 operations levels, Mr. Chairman, our Fiscal Year 1986 funding situation has been and continues to be constrained. And we must aggressively manage Fiscal Year 1986 operations on a continuing basis.

I wish to make clear that we have not cut back on programs related to safety, nor do we intend to.

We began 1986 in an austere fiscal climate. Upon examination we found that Gramm-Rudman-Hollings placed FAA in a funding situation that severely challenges us despite economy moves, including drastic reductions in travel, overtime and hiring, as well as managerial actions. We have been forced to ask for a supplemental appropriation.

That supplemental is vital if we are to continue to provide good, safe service to the traveling public. Even with the supplemental, we will have to make further reductions in programs that are crucial to the system's future.

FY 1987 BUDGET REQUEST

With respect to our Fiscal Year 1987 budget request, the budget that we have submitted for Fiscal Year 1987 will permit us to operate; we can get the job done. We will, however, have to continually and carefully assess our financial situation on a real time basis to ensure that we maintain our operational capability.

I want to emphasize that I continue to be most conscious of our safety responsibilities. If fiscal constraints appear likely to impact safety, I will, of course, take the necessary actions to correct this by first cutting back in other areas, or in the extreme, constraining the flow of air commerce.

The FY 1987 Operations Appropriation will increase $159 million in budget authority but decrease positions by 786. Funding increases include leased communications, annualization of 1986 employment increases in aviation inspector and security areas, and training for the expanded controller work force, together with the Gramm-Rudman-Hollings restoration.

Additional air traffic controllers and aviation safety inspectors are included in our position level. In the Grants-in-Aid for Airports Program, we request an obligation level of $712.5 million for planning and development of the nation's airports.

Our request for the Facilities and Equipment programs totals $825 million. This is less than the authorized level but we will continue the critical elements of the NAS plan, essentially on schedule.

We request $134.5 million to fund the Research, Engineering and Development activities. The final development phase of the advanced automation system is included, along with the voice switching and control system and research to improve our ability to detect weapons and explosives.

Mr. Chairman, again, I am indeed pleased to appear before you to respond to questions in order that the interests of Congress and the American people in matters of aviation will be best served, and we stand ready to respond to your questions, sir.

Mr. LEHMAN. With the cooperation, perhaps of you and Mr. Coughlin, what I thought that we would try to do is ask one or two questions that we would like to start off with and then maybe adjourn for about an hour or so and come back this afternoon.

Is that okay?

Mr. ENGEN My time is your time.

ADMINISTRATOR'S PREPARED STATEMENT

Mr. LEHMAN. We will put your full statement in the record.

[The prepared statement of Donald D. Engen follows:]

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MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE, I WELCOME THIS OPPORTUNITY TO DISCUSS OUR BUDGET REQUEST FOR FISCAL YEAR 1987. THIS REQUEST IS IN KEEPING WITH THE ADMINISTRATION'S INITIATIVE TO REDUCE THE FEDERAL BUDGET DEFICIT WHILE MAINTAINING THE BASIC THRUST OF THE NATIONAL AIRSPACE SYSTEM PLAN. WE WILL PROVIDE THE INCREASED NUMBERS OF AIR TRAFFIC CONTROLLERS AND AVIATION INSPECTORS REQUIRED TO ACCOMMODATE INCREASED DEMANDS FOR THEIR AVIATION SERVICES.

FOR FISCAL YEAR 1987, WE REQUEST TOTAL BUDGET AUTHORITY OF $4.8 BILLION, A SLIGHT INCREASE OF $33 MILLION OVER FISCAL YEAR 1986, AFTER ACCOMMODATING THE GRAMM-RUDMAN-HOLLINGS REDUCTIONS. APPROXIMATELY 85 PERCENT OF FAA'S FISCAL YEAR 1987 BUDGET IS PROPOSED TO BE FINANCED BY THE USERS OF AVIATION SERVICES THROUGH THE AIRPORT AND AIRWAY TRUST FUND.

MR. CHAIRMAN, BEFORE ADDRESSING THE FISCAL YEAR 1987 BUDGET REQUEST, I WILL HIGHLIGHT THE MORE SIGNIFICANT ACCOMPLISHMENTS OF THE PAST YEAR--ACCOMPLISHMENTS ACHIEVED THROUGH THE COOPERATION OF FAA EMPLOYEES, THE AVIATION COMMUNITY, AND THE CONGRESS.

AIR TRAFFIC CONTROL

AIR TRAFFIC OPERATIONS AT THE 22 PACING AIRPORTS AND 20 CONUS AIR ROUTE TRAFFIC CONTROL CENTERS INCREASED APPROXIMATELY THREE PERCENT IN CALENDAR YEAR 1985. THIS REFLECTED CONTINUED PROSPERITY IN THE NATIONAL ECONOMY AND THE INCREASED DESIRE OF THE AMERICAN PEOPLE FOR AIR TRAVEL. MOST IMPORTANT, THIS INCREASE IN AIR TRAFFIC ACTIVITY WAS ACCOMMODATED WITH FEWER DELAYS IN THE SUMMER OF 1985 THAN EXISTED THE PREVIOUS YEAR. THE COOPERATION OF THE AIRLINES, WORKING WITH THE FAA, RESULTED IN A 17 PERCENT DECREASE IN DELAYS OF 15 MINUTES OR MORE WHEN COMPARED WITH 1984. SIGNIFICANT REDUCTIONS IN DELAYS WERE REPORTED AT THE MOST CONGESTED AIRPORTS.

FOR EXAMPLE, AT THE THREE NEW YORK METROPOLITAN AIRPORTS, DELAYS WERE DOWN 32 PERCENT FOR 1985 COMPARED TO 1984.

WHILE TRAFFIC WAS INCREASING AND DELAYS DECREASING IN 1985, OPERATIONAL ERRORS ALSO DECREASED BY 25 PERCENT SYSTEMWIDE. THE DECREASES IN OPERATIONAL ERRORS IN EN ROUTE CENTERS, WHERE TRAFFIC SPACING IS MONITORED BY COMPUTERS, WAS AN EVEN MORE DRAMATIC 34 PERCENT.

THESE IMPROVEMENTS WERE ACHIEVED AS THE AGENCY CONTINUED TO STRENGTHEN THE CONTROLLER WORK FORCE. DURING FISCAL YEAR 1986, WE ARE IMPLEMENTING PLANS TO INCREASE THE CONTROLLER WORK FORCE FURTHER TO 14,480. THE FISCAL YEAR 1987 BUDGET INCLUDES A CONTROLLER WORK FORCE EMPLOYMENT GOAL OF APPROXIMATELY 15,000 BY SEPTEMBER 30, 1987.

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THE NUMBER OF FULL PERFORMANCE LEVEL (FPL) CONTROLLERS CONTINUES TO INCREASE. AT THE END OF FISCAL YEAR 1985, THERE WERE 8,315 FPL'S. SIX MONTHS LATER, AT THE END OF MARCH, THIS NUMBER INCREASED TO 8,770. WE ARE HIRING AND TRAINING ADDITIONAL CONTROLLERS AND WE WILL CONTINUE TO STRENGTHEN THE NUMBERS AND EXPERIENCE OF THE CONTROLLER WORK FORCE.

HUMAN RESOURCE MANAGEMENT

OUR HUMAN RESOURCE MANAGEMENT ORGANIZATION IS RESPONSIBLE FOR HUMAN RESOURCE PLANNING, DEVELOPMENT, EVALUATION, AND RESEARCH. IN SHORT, IT HAS THE TASK OF EFFECTIVELY MANAGING FAA'S MOST IMPORTANT RESOURCE--PEOPLE. THIS ORGANIZATION'S SIGNIFICANT EFFORTS INCLUDE:

- A NEW POLICY STATEMENT REQUIRING ALL PLANS, POLICIES, PRACTICES, AND MANAGEMENT ACTIONS TO BE FORMULATED AND IMPLEMENTED IN A MANNER THAT RECOGNIZES THE IMPORTANCE OF FAA'S EMPLOYEES.

- REQUIRING ALL OPERATIONAL STRATEGIC AND TACTICAL PLANS TO ADDRESS HUMAN RESOURCE MANAGEMENT.

- STRIVING TO CHANGE MANAGEMENT STYLE THROUGHOUT THE AGENCY BY INCREASING COOPERATIVE MANAGEMENT WHERE ALL EMPLOYEES HAVE A VOICE.

- AMENDED POLICIES AND DIRECTIVES GOVERNING IMPLEMENTATION OF THE NAS PLAN TO PROVIDE FOR HUMAN FACTORS AND HUMAN RESOURCE IMPACT ANALYSIS.

- IMPROVEMENT OF AIR TRAFFIC CONTROLLER AND AVIATION SAFETY INSPECTOR TRAINING PROGRAMS TO INCREASE CONTROLLER TRAINEE RETENTION RATES AND TO ACCELERATE QUALIFICATIONS OF INSPECTORS.

- NEGOTIATION OF A RELOCATION ASSISTANCE CONTRACT AS A BENEFIT TO EMPLOYEES.

- IMPLEMENTATION OF A NEW, REHABILITATIVE APPROACH TO SUBSTANCE ABUSE AS PART OF AN OVERALL EXPANSION OF THE AGENCY'S EMPLOYEE ASSISTANCE PROGRAM.

NATIONAL AIRSPACE SYSTEM PLAN

DURING THE PAST YEAR, CRITICAL ELEMENTS OF THE NAS PLAN REMAINED ESSENTIALLY ON SCHEDULE WITH $1.2 BILLION OF FACILITIES AND EQUIPMENT APPROPRIATIONS OBLIGATED. THIS IS

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MORE THAN THREE TIMES THE AMOUNT PREVIOUSLY OBLIGATED IN A SINGLE YEAR. BY THE END OF FISCAL YEAR 1985, WE HAD AWARDED ABOUT 68 PERCENT OF THE MAJOR NAS EQUIPMENT CONTRACTS. SOME OF THE MORE SIGNIFICANT ACCOMPLISHMENTS ARE AS FOLLOWS:

- IBM WAS AWARDED AN ACQUISITION CONTRACT FOR THE HOST COMPUTER, THE FIRST PHASE OF THE AUTOMATION MODERNIZATION PROGRAM. THIS PROGRAM, WHICH INVOLVES $197 MILLION, WILL REPLACE EXISTING COMPUTER HARDWARE WITH STATE-OF-THE-ART SYSTEMS. THE HOST WILL INITIALLY USE CURRENT SOFTWARE TO PROVIDE ADDITIONAL COMPUTER CAPACITY AND IMPROVE THE RELIABILITY OF THE FAA'S EN ROUTE CENTERS.

- TO DATE, AUTOMATED FLIGHT SERVICE STATION LOCATIONS HAVE BEEN IDENTIFIED FOR 60 OF THE PLANNED TOTAL OF 61 SITES. TWENTY-FIVE OF THE NEW FACILITIES WERE ACCEPTED FOR FAA OCCUPANCY. EIGHTEEN FLIGHT SERVICE STATIONS WERE CONSOLIDATED, AND NINE HAVE BEEN RELOCATED, WITH THE PERSONNEL AND SERVICES BEING RELOCATED TO ESTABLISH 16 NEW FACILITIES. FACTORY TESTING OF THE MODEL 1 SYSTEM WAS COMPLETED, AND IT HAS BEEN DELIVERED TO NINE LOCATIONS. THE INITIAL MODEL 1 COMMISSIONING OCCURRED IN FEBRUARY 1986 AT THE CLEVELAND FAMILY OF FACILITIES. WE ARE CURRENTLY REVIEWING HOW TO PROCEED WITH MODEL 2 IN LIGHT OF THE CAPABILITY OF INDUSTRY TO DEVELOP SOME OF THE SOFTWARE.

- A CONTRACT POTENTIALLY WORTH $221.8 MILLION WAS AWARDED TO WESTINGHOUSE ELECTRIC CORPORATION AND SYSTEMS DEVELOPMENT CORPORATION FOR 78 MODE-S GROUND STATIONS WITH AN OPTION FOR 59 MORE. MODE-S WILL PROVIDE MORE ACCURATE AIRCRAFT POSITION INFORMATION AND REDUCE RADAR BEACON INTERFERENCE.

- NORDEN SYSTEMS INC. WAS AWARDED A $55.6 MILLION CONTRACT FOR 17 SETS OF AIRPORT SURFACE DETECTION EQUIPMENT WITH AN OPTION FOR 13 ADDITIONAL SETS. THIS NEW SOLID-STATE RADAR EQUIPMENT WILL HAVE A GREATER CAPABILITY TO DETECT AIRCRAFT AND VEHICLES IN HEAVY PRECIPITATION AND PRESENT A CLEARER, SHARPER RADAR PICTURE UNDER ALL AMBIENT LIGHT CONDITIONS THAN IS AVAILABLE FROM THE PRESENT EQUIPMENT.

- A CONTRACT FOR DESIGN, DEVELOPMENT, AND FIRST-ARTICLE PRODUCTION OF THE REMOTE MAINTENANCE MONITORING EQUIPMENT FOR THE INSTRUMENT LANDING

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SYSTEM (ILS) WAS AWARDED TO NEW BEDFORD PANORAMICS FOR $10 MILLION. THIS IS THE FIRST PHASE OF A TWO-PHASE CONTRACT. THE SECOND PHASE WILL BE FOR PRODUCTION QUANTITIES SUFFICIENT TO RETROFIT 850 CATEGORY 1 ILS'S.

- A MICROWAVE LANDING SYSTEM (MLS) IMPLEMENTATION CONTRACT WAS AWARDED FOR $90.6 MILLION IN 1984 TO PROVIDE 172 SYSTEMS. THE CONTRACTOR, HAZELTINE, SUCCESSFULLY COMPLETED THE CRITICAL DESIGN REVIEW IN 1985 AND DELIVERIES ARE EXPECTED TO COMMENCE IN MID-1987. MLS WILL PROVIDE MORE PRECISE LANDING GUIDANCE THAN THE PRESENT ILS.

- IN THE NATIONAL RADIO COMMUNICATIONS SYSTEM (NARACS) PROGRAM, A $15.4 MILLION CONTRACT WAS AWARDED TO MOTOROLA INC. TO PROCURE EQUIPMENT FOR REGIONAL NETWORKS. THE ESTABLISHMENT OF A NARACS SYSTEM WILL PROVIDE COMPLETE COMMUNICATIONS COVERAGE WITH FAA HEADQUARTERS, REGIONS, FIELD OFFICES, AIRCRAFT ACCIDENT SITES, AND OTHER GOVERNMENT AGENCIES.

- A FIVE-YEAR CONTRACT WAS AWARDED TO AT&T TECHNOLOGY SYSTEMS FOR PROCUREMENT OF 312 RADAR MICROWAVE LINK INSTALLATIONS WITH OPTIONS FOR 692 ADDITIONAL SITES. THE INITIAL ORDER VALUE IS $49.2 MILLION AND THERE ARE OPTIONS THAT COULD BRING THE TOTAL CONTRACT VALUE TO $188.2 MILLION. THIS SYSTEM WILL ENABLE CONTROLLERS AND PILOTS TO EXCHANGE DATA AND VOICE COMMUNICATIONS MORE EFFICIENTLY, IMPROVING VITAL NAVIGATIONAL AND WEATHER COMMUNICATIONS, WHILE REDUCING COSTS.

AVIATION SAFETY INSPECTOR PROGRAM

THE FISCAL YEAR 1987 BUDGET REQUESTS AN ADDITIONAL 138 AVIATION SAFETY INSPECTOR POSITIONS. THIS CONTINUES OUR MAJOR INITIATIVE OF INCREASING THE NUMBER OF AVIATION SAFETY INSPECTORS. WE ARE PROCEEDING TO INCREASE THE WORK FORCE BY A MINIMUM OF THE 150 INSPECTOR POSITIONS REQUESTED IN OUR FISCAL YEAR 1986 BUDGET AMENDMENT, AND WE WILL ENDEAVOR TO FURTHER INCREASE THE INSPECTOR WORK FORCE TO THE MAXIMUM EXTENT POSSIBLE WITHIN AVAILABLE FISCAL YEAR 1986 FUNDING.

IN ANTICIPATION OF THESE INCREASES, THE FAA INCREASED ITS CAPACITY TO TRAIN INSPECTORS IN AN IMPROVED AND ACCELERATED MANNER. INSPECTOR ORIENTATION AND JOB FUNCTION COURSES HAVE BEEN REVIEWED AND REVISED TO ENSURE ACCURACY, VALIDITY, AND APPLICABILITY. NEW INSPECTORS ARE ENROLLED IN THESE REVISED COURSES SHORTLY AFTER EMPLOYMENT AND ARE COMPLETING ALL

REQUISITE INITIAL FORMAL TRAINING WITHIN THE FIRST FOUR MONTHS. PREVIOUSLY, THIS TRAINING WAS ACCOMPLISHED WITHIN THE FIRST TWO YEARS OF EMPLOYMENT.

IN ADDITION, THE FAA HAS COMPLETED A COMPREHENSIVE REVIEW AND EVALUATION OF THE EFFICIENCY AND EFFECTIVENESS OF THE FLIGHT STANDARDS INSPECTOR WORK FORCE. THE FINDINGS AND CONCLUSIONS ARE NOW BEING REVIEWED AND INDICATED IMPROVEMENTS ARE UNDERWAY.

AS AN EARLY FIRST STEP, WE IMPLEMENTED A NATIONALLY-DIRECTED, MANDATORY WORK PROGRAM, WHICH DEFINES THE MINIMUM INSPECTION ACTIVITIES NECESSARY TO ENSURE THAT WE MAINTAIN KNOWLEDGE OF THE SAFETY AND REGULATORY COMPLIANCE IN THE AVIATION INDUSTRY. WRITTEN DIRECTIVES HAVE ESTABLISHED MINIMUM LEVELS AND FREQUENCIES FOR MANDATORY SURVEILLANCE OF AIR CARRIERS, AIR AGENCIES, AIR OPERATORS, AND AIRMEN. IN FISCAL YEAR 1986, 71,599 INSPECTIONS OF ALL TYPES ARE PLANNED, INCLUDING 14,147 OPERATIONS, MAINTENANCE, AND AVIONICS INSPECTIONS OF THE NATION'S SCHEDULED AIR CARRIERS. THE PREPLANNED INSPECTIONS ARE IN ADDITION TO OTHER ACTIVITIES, SUCH AS ACCIDENT INVESTIGATION, AIRMAN CERTIFICATION, AND NEW-ENTRANT OPERATOR CERTIFICATION.

IN ADDITION TO THIS MANDATORY WORK PROGRAM, WE HAVE INITIATED A MAJOR NEW INSPECTION INITIATIVE WHICH INSTITUTIONALIZES THE INSPECTION METHODOLOGY USED DURING THE 1984 NATIONAL AIR TRANSPORTATION INSPECTION PROGRAM. AS PART OF THIS INITIATIVE, THE FAA HAS CONDUCTED SPECIAL INDEPTH INSPECTIONS OF 20 CERTIFICATED TURBINE ENGINE REPAIR STATIONS. IN ADDITION, 45 AIR CARRIERS HAVE BEEN SELECTED FOR INDEPTH INSPECTIONS AS RAPIDLY AS AVAILABLE RESOURSES WILL PERMIT. IN THESE INSPECTIONS, THE FAA WILL PLACE SPECIAL EMPHASIS ON AIR CARRIERS WHICH DERIVE SIGNIFICANT REVENUES FROM MILITARY CHARTER FLIGHTS.

THE GENERAL ACCOUNTING OFFICE HAS RECENTLY COMPLETED, AT THE REQUEST OF THE HOUSE OF REPRESENTATIVES, AN AUDIT OF THE FAA'S OVERSIGHT OF MAINTENANCE AND OPERATIONS BY THE NATION'S COMMERCIAL AIR CARRIERS. THE GAO AUDIT CLOSELY PARALLELED AND SUPPORTED FAA STUDIES WHICH WERE UNDERWAY. IT WAS A VERY COOPERATIVE AND BENEFICIAL EFFORT AND WE EXPECT TO BENEFIT GREATLY FROM THEIR FINDINGS.

AVIATION SECURITY

WITH THE ADDITIONAL FUNDS PROVIDED BY THE CONGRESS, FAA SIGNIFICANTLY EXPANDED BOTH ITS SECURITY WORK FORCE AND ITS RESEARCH AND DEVELOPMENT ACTIVITY IN THE AREA OF EXPLOSIVES DETECTION. THE EXPANDED WORK FORCE ALLOWS FOR A GREATLY

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INCREASED AIRPORT AND AIR CARRIER SURVEILLANCE PROGRAM, PARTICULARLY AT AIRPORTS AND STATIONS IN OTHER NATIONS. ADDITIONAL FEDERAL AIR MARSHALS HAVE BEEN HIRED AND TRAINED AND ARE NOW PROVIDING ENHANCED SECURITY FOR U.S. CITIZENS IN INTERNATIONAL TRAVEL.

THE FAA HAS IMPLEMENTED THREE EMERGENCY RULES TO DEAL WITH THE INCREASED THREAT OF TERRORISM IN AVIATION. THE FIRST REQUIRES AIRLINES TO TRANSPORT FEDERAL AIR MARSHALS IN THE NUMBER AND MANNER SPECIFIED BY THE FAA. THE SECOND REQUIRES INCREASED SECURITY TRAINING FOR CREWMEMBERS AS WELL AS THE DESIGNATION AND TRAINING OF GROUND SECURITY COORDINATORS AT ALL AIR CARRIER STATIONS. THE THIRD REQUIRES PREEMPLOYMENT BACKGROUND CHECKS OF ALL NEWLY HIRED AIRPORT AND AIR CARRIER EMPLOYEES HAVING ACCESS TO THE SECURE AREAS OF AN AIRPORT.

IN ADDITION, A NUMBER OF SIGNIFICANT ACTIONS HAVE BEEN TAKEN TO ENHANCE THE NUMBER AND SCOPE OF SECURITY MEASURES REQUIRED AT ALL AIRPORTS, AGAIN WITH PARTICULAR EMPHASIS ON SELECTED INTERNATIONAL AIRPORTS. THE INTERNATIONAL SECURITY AND DEVELOPMENT COOPERATION ACT OF 1985 REQUIRES INCREASED AIRPORT ASSESSMENT ACTIVITY AND PROVIDES FOR MORE RIGOROUS SANCTIONS AGAINST AIRPORTS THAT FAIL TO MAINTAIN AND ADMINISTER EFFECTIVE SECURITY MEASURES.

AIRPORTS PROGRAM

THE AIRPORT CAPACITY PROGRAM OFFICE WAS ESTABLISHED TO COORDINATE AGENCY CAPACITY ACTIVITIES. IN PART, THIS INCLUDES COORDINATION OF IMPROVED AIR TRAFFIC PROCEDURES, AIRPORT CAPACITY TASK FORCE ACTIVITIES, AND AIRPORT CAPACITY SIMULATIONS.

A LITTLE OVER A YEAR AGO, THE AIR TRANSPORT ASSOCIATION RECOMMENDED OVER 130 PROJECTS TO IMPROVE CAPACITY AT 22 HIGH ACTIVITY AIRPORTS. TO DATE, OVER 31 PERCENT OF THE PROJECTS ARE UNDER WAY THROUGH THE GRANT PROCESS, AND OVER 56 PERCENT ARE ANTICIPATED TO BE COMPLETED DURING FISCAL YEAR 1987.

IN FISCAL YEAR 1985, THE AGENCY FINALIZED FEDERAL AVIATION REGULATION PART 150, "AIRPORT NOISE COMPATIBILITY PLANNING." THE PART 150 NOISE PLANNING PROCESS IS THE FAA'S PRIMARY PROGRAM TO RESOLVE SITE-SPECIFIC AIRPORT NOISE PROBLEMS. IT IS A BALANCED PROGRAM AIMED AT REDUCING NOISE IMPACTS WHILE NOT UNDULY AFFECTING THE NATIONAL AIR TRANSPORTATION SYSTEM. THIS PROGRAM HAS BEEN GIVEN IMPETUS WITH FINANCIAL ASSISTANCE UNDER THE AIRPORT GRANTS PROGRAM. THERE ARE AN ESTIMATED 75 AIRPORTS NATIONWIDE ENGAGED IN NOISE PLANNING, WITH 10 AIRPORTS TO DATE HAVING TOTALLY COMPLETED THE PROCESS WITH FAA APPROVAL OF THEIR NOISE COMPATIBILITY PROGRAMS.

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UNDER THE AIRPORT CERTIFICATION PROGRAM, ALL AIRPORTS SERVED BY AIR CARRIER AIRCRAFT WITH MORE THAN 30 SEATS ARE INSPECTED AT LEAST ANNUALLY. THESE INSPECTIONS ENSURE THAT THE AIRPORTS ARE IN COMPLIANCE WITH SAFETY AND OPERATIONAL REGULATORY REQUIREMENTS.

SAFETY RECORD

WHILE 1985 HAS BEEN CHARACTERIZED AS THE WORST YEAR ON RECORD FOR AVIATION SAFETY BOTH IN THE U.S. AND INTERNATIONALLY, THE U.S. TOTAL SYSTEM ACCIDENT RATE PER 100,000 FLIGHT HOURS, THE FATAL ACCIDENT RATE, AND THE SERIOUS INJURY RATE ALL CONTINUED THEIR LONG-TERM AND STEADY DECREASES.

ACCORDING TO THE INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO), THE NUMBER OF FATALITIES FOR COMMERCIAL AIRCRAFT ACCIDENTS IN SCHEDULED SERVICE WORLDWIDE FOR 1985 EXCEEDS 1,430, RESULTING FROM 16 FATAL ACCIDENTS. THIS IS CLOSE TO DOUBLE THE NUMBER OF FATALITIES RECORDED IN ANY OTHER YEAR GOING BACK TO 1975. TAKEN TOGETHER, THE AIR INDIA AND JAPAN AIRLINES FATALITIES ALONE WOULD EXCEED THE TOTAL FOR ANY OF THESE PRIOR YEARS. THE U.S. AIR CARRIER PART OF THIS RECORD YEAR WAS 197 FATALITIES FOR SCHEDULED SERVICE RESULTING FROM FOUR ACCIDENTS. THIS WAS EXCEEDED IN 1979 WITH 351 FATALITIES AND IN 1982 WITH 233 FATALITIES.

THE U.S. AIR CARRIER SAFETY RECORD WAS FURTHER INFLUENCED BY THREE NONSCHEDULED SERVICE ACCIDENTS INCLUDING THE GALAXY CRASH IN RENO AND THE ARROW AIR CRASH IN NEWFOUNDLAND FOR A TOTAL OF 329 FATALITIES IN THE NONSCHEDULED SERVICE CATEGORY. THE COMBINED SCHEDULED AND NONSCHEDULED SERVICE FATALITIES WAS THUS 526 WHICH WAS THE LARGEST NUMBER IN ANY SINGLE YEAR SINCE 1977, WHEN THERE WERE 655 FATALITIES.

THE 1985 SCHEDULED AND NONSCHEDULED AIR CARRIER AND AIR TAXI ACCIDENT AND FATAL ACCIDENT RATES WERE HIGHER THAN IN 1984, WHILE COMMUTER AND GENERAL AVIATION RATES WERE BELOW 1984 LEVELS. WITH THE EXCEPTION OF NONSCHEDULED AIR CARRIERS, ACCIDENT AND FATAL ACCIDENT RATES, PER 100,000 FLIGHT HOURS, FOR ALL OPERATOR CATEGORIES WERE BELOW 1978 LEVELS, WHEN THE AIRLINE INDUSTRY WAS DEREGULATED.

AVIATION FORECASTS

WITH THE STRONG GROWTH IN THE ECONOMY, AVIATION ACTIVITY IS EXPECTED TO CONTINUE THE UPTURN BEGUN DURING FISCAL YEAR 1983. THIS GROWTH WILL, OF COURSE, AFFECT FAA WORK AND RESOURCES. LET ME BRIEFLY HIGHLIGHT OUR ACTIVITY FORECASTS.

IN FISCAL YEAR 1987 WE PROJECT THE FOLLOWING INCREASES:

- INSTRUMENT FLIGHT RULES AIRCRAFT HANDLED BY THE EN ROUTE SYSTEM WILL INCREASE FROM 34.0 MILLION TO 35.1 MILLION, OR 3.2 PERCENT.

- INSTRUMENT OPERATIONS AT FAA TOWERS WILL INCREASE FROM 40.6 MILLION TO 42.3 MILLION, A 4.2 PERCENT RISE.

- AIRCRAFT OPERATIONS, LANDINGS AND TAKEOFFS, CONTROLLED BY FAA TOWERS WILL INCREASE 3.3 PERCENT FROM 59.8 MILLION TO 61.8 MILLION.

- FLIGHT SERVICES PROVIDED BY FLIGHT SERVICE STATIONS WILL INCREASE FROM 54.6 MILLION TO 56.5 MILLION, AN INCREASE OF 3.5 PERCENT.

AIRPORT AND AIRWAY TRUST FUND

AT THE START OF FISCAL YEAR 1987, WE ESTIMATE AN UNAPPROPRIATED BALANCE IN THE TRUST FUND OF $6.0 BILLION, OF WHICH SOME $3.4 BILLION IS COMMITTED LEAVING AN UNCOMMITTED STARTING BALANCE OF $2.6 BILLION. REVENUE IS ESTIMATED AT $3.2 BILLION IN FISCAL YEAR 1987.

THE UNAPPROPRIATED BALANCE AT THE END OF FISCAL YEAR 1987 IS ESTIMATED AT $5.3 BILLION, OF WHICH NEARLY $4.0 BILLION IS COMMITTED. THE REMAINING $1.4 BILLION IS THE PROJECTED UNCOMMITTED BALANCE IN THE TRUST FUND AT THE END OF FISCAL YEAR 1987.

THE ADMINISTRATION HAS PROPOSED LEGISLATION, TO BE EFFECTIVE IN FISCAL YEAR 1987, TO AMEND THE PROVISIONS GOVERNING THE TRUST FUND SHARE OF FAA'S OPERATING COSTS. THE TRUST FUND IS PROJECTED TO FUND 75 PERCENT OF OPERATIONS COSTS AND THE BUDGET REQUEST ASSUMES ELIMINATION OF THE SO-CALLED "PENALTY PROVISIONS," WHICH TIE THIS RATE TO AMOUNTS MADE AVAILABLE FOR CAPITAL PROGRAMS.

ALSO, THE ADMINISTRATION HAS PROPOSED LEGISLATION TO SUSPEND INVESTMENT OF THE TRUST FUND IN INTEREST-BEARING U.S. SECURITIES.

TOGETHER WITH OUR PROPOSED TRUST FUND LEVELS IN FISCAL YEAR 1987, THIS REDUCES THE PROJECTED UNCOMMITTED TRUST FUND BALANCE OF $2.7 BILLION AT THE END OF FISCAL YEAR 1986 TO $1.4 BILLION AT THE END OF FISCAL YEAR 1987, ALSO COMPENSATES GENERAL TAXPAYERS FOR CONTRIBUTING MORE THAN THEIR SHARE IN PAST YEARS.

FISCAL YEAR 1986 OPERATIONS LEVELS

THE CONGRESS ENACTED $2,695 MILLION FOR THE "OPERATIONS" APPROPRIATION, OF WHICH $116 MILLION WAS LATER SEQUESTERED UNDER THE BALANCED BUDGET AND EMERGENCY DEFICIT REDUCTION ACT OF 1985, COMMONLY REFERRED TO AS THE GRAMM-RUDMAN-HOLLINGS ACT. THIS REDUCTION HAS REQUIRED STRINGENT ACTIONS IN FISCAL YEAR 1986 TO ACHIEVE SAVINGS IN AN ACCOUNT WHERE 75 PERCENT OF THE COSTS ARE DIRECTLY ATTRIBUTABLE TO PERSONNEL. MANY ALTERNATIVES WERE REVIEWED AND ANALYZED FOR POSSIBLE COST SAVINGS. AN OUTSIDE HIRING FREEZE HAS BEEN IMPOSED ON ALL EMPLOYMENT EXCEPT AIR TRAFFIC CONTROLLERS, AVIATION SAFETY INSPECTORS, AND SECURITY PERSONNEL. ALSO, OTHER COSTS HAVE BEEN CUT BACK TO THE MINIMUM, INCLUDING DISCRETIONARY TRAVEL, OVERTIME, AND EQUIPMENT PURCHASES. WE WILL USE THE AUTHORITY IN THE FISCAL YEAR 1985 SUPPLEMENTAL APPROPRIATION TO TRANSFER $8 MILLION FROM UNOBLIGATED BALANCES IN THE PRIOR YEAR FACILITIES AND EQUIPMENT APPROPRIATIONS TO FUND THE 200 REEMPLOYED ANNUITANTS IN OUR AIR TRAFFIC PROGRAM AND HAVE PROPOSED A SUPPLEMENTAL APPROPRIATION REQUEST.

MR. CHAIRMAN, OUR FISCAL YEAR 1986 FUNDING SITUATION HAS BEEN AND CONTINUES TO BE CONSTRAINED, AND WE MUST AGGRESSIVELY MANAGE FISCAL YEAR 1986 OPERATIONS ON A CONTINUING BASIS. HOWEVER, WE WILL NOT BE ABLE TO DO ALL THAT MUST BE DONE BY OURSELVES. I STRONGLY URGE YOU, MR. CHAIRMAN, AND YOUR COLLEAGUES, TO SUPPORT IMMEDIATE ENACTMENT OF THE SUPPLEMENTAL APPROPRIATION THAT HAS BEEN REQUESTED, SO THAT WE CAN SUCCESSFULLY COMPLETE THIS FISCAL YEAR WITHOUT FURLOUGHING FAA PERSONNEL. I WISH TO MAKE CLEAR THAT WE HAVE NOT CUT BACK ON PROGRAMS RELATED TO SAFETY NOR DO WE INTEND TO.

WE BEGAN 1986 IN AN AUSTERE FISCAL CLIMATE. UPON EXAMINATION WE FIND THE GRAMM-RUDMAN-HOLLINGS REDUCTIONS HAVE PLACED FAA IN A FUNDING SITUATION THAT IS BELOW THAT NEEDED TO OPERATE. DESPITE ECONOMY MOVES, INCLUDING DRASTIC REDUCTIONS IN TRAVEL, OVERTIME, HIRING, AS WELL AS MANAGERIAL ACTIONS, WE HAVE BEEN FORCED TO ASK FOR A SUPPLEMENTAL. WE ARE CONTINUING TO HAVE A MOST DIFFICULT TIME FUNCTIONING. WE WILL HAVE TO MAKE REDUCTIONS IN PROGRAMS WHICH, THOUGH NOT CRUCIAL, ARE MUCH NEEDED. FOR EXAMPLE, OUR HUMAN RELATIONS EFFORTS--BADLY NEEDED TO IMPROVE THE MANAGEMENT CLIMATE THROUGHOUT THE WORK FORCE--WILL INEVITABLY SUFFER IN THESE AUSTERE TIMES.

THE BUDGET WE HAVE SUBMITTED FOR FISCAL YEAR 1987 WILL PERMIT US TO OPERATE. WE WILL, HOWEVER, HAVE TO CONTINUE CAREFULLY ASSESSING OUR FINANCIAL SITUATION ON A REAL TIME BASIS TO INSURE THAT WE MAINTAIN OPERATIONAL CAPABILITY. HOWEVER, I

WANT TO EMPHASIZE THAT I AM MOST CONSCIOUS OF OUR SAFETY RESPONSIBILITIES. IF FISCAL CONSTRAINTS APPEAR LIKELY TO IMPACT SAFETY, I WILL OF COURSE TAKE THE NECESSARY ACTIONS TO CORRECT THIS BY CUTTING BACK IN OTHER AREAS, OR IN THE EXTREME, BY CONSTRAINING THE FLOW OF AIR COMMERCE.

FISCAL YEAR 1987 REQUEST FOR APPROPRIATIONS

FAA'S FY 1987 BUDGET ESTIMATE REQUESTS BUDGET AUTHORITY OF $4,818 MILLION AND 47,045 DIRECT, FULL-TIME PERMANENT POSITIONS. THIS REPRESENTS AN INCREASE OF $33 MILLION AND A DECREASE OF 786 POSITIONS FROM FISCAL YEAR 1986 LEVELS AFTER APPLICATION OF SEQUESTRATION REQUIRED UNDER GRAMM-RUDMAN-HOLLINGS. WITH THIS GENERAL BACKGROUND, I WILL COMMENT ON EACH OF OUR 1987 ESTIMATES BY APPROPRIATION.

OPERATIONS APPROPRIATION

THE REQUEST FOR $2,800 MILLION, OF WHICH $2,100 MILLION IS FINANCED FROM THE TRUST FUND, REFLECTS AN INCREASE OF $159 MILLION OVER FISCAL YEAR 1986 AND A POSITION REDUCTION OF 786. MAJOR INCREASES OCCUR IN AIR TRAFFIC--$46 MILLION, AVIATION STANDARDS--$30 MILLION, AND SYSTEMS MAINTENANCE--$51 MILLION. AIR TRAFFIC WILL INCREASE THE CONTROLLER WORK FORCE BY AN ADDITIONAL 500 AIR TRAFFIC CONTROLLERS TO REACH A GOAL OF APPROXIMATELY 15,000 IN THE CONTROLLER WORK FORCE BY THE END OF FISCAL YEAR 1987. PROJECTS SUCH AS THE EN ROUTE SPACING PROGRAM AND THE UPGRADING OF COMPUTER TECHNOLOGY FOR CENTRAL FLOW WILL BE CONTINUED IN ORDER TO REDUCE DELAYS AND CONGESTION. AVIATION STANDARDS REQUESTS AN ADDITIONAL 138 AVIATION SAFETY INSPECTION POSITIONS. THE FUNDING INCREASE FOR SYSTEMS MAINTENANCE IS PRINCIPALLY DUE TO THE LEASED COMMUNICATIONS COST OF RADIO COMMUNICATION LINKS AND FLIGHT SERVICE AUTOMATION ACTIVITIES. THE PACE OF TARIFF INCREASES AND ADDITIONAL REQUIREMENTS CONTINUES TO OUTSTRIP OUR ABILITY TO CONSTRAIN GROWTH IN THIS PROGRAM. SOME INCREASE IS ALSO DUE TO THE PROPOSED PILOT PROGRAM IN CONTRACT MAINTENANCE OF SOME AIRWAY FACILITIES EQUIPMENT IN SELECTED REGIONS. I AM CONCERNED WITH THE INCREASING AGE OF THE SYSTEMS MAINTENANCE WORK FORCE AND THE SKILL IMBALANCES WHICH ARE DEVELOPING. WE ARE CURRENTLY ASSESSING THE SITUATION AND WILL MAKE WHATEVER ADJUSTMENTS ARE NECESSARY TO ENSURE THE SUCCESSFUL IMPLEMENTATION OF THE NAS PLAN AND THE CONTINUED HIGH LEVELS OF SERVICE ON OUR EXISTING SYSTEMS.

FUNCTIONS PREVIOUSLY FINANCED UNDER A SEPARATE HEADQUARTERS ADMINISTRATION APPROPRIATION ARE PROPOSED FOR FUNDING WITHIN THE OPERATIONS APPROPRIATION TO REDUCE ADMINISTRATIVE WORKLOAD

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AND ENHANCE PROGRAM FLEXIBILITY. A HEADQUARTERS ADMINISTRATION BUDGET ACTIVITY WILL RETAIN THE INTEGRITY AND VISIBILITY OF SOME OF THE KEY ADMINISTRATIVE FUNCTIONS FORMERLY FUNDED IN THE SEPARATE HEADQUARTERS ADMINISTRATION APPROPRIATION.

OPERATION AND MAINTENANCE
METROPOLITAN WASHINGTON AIRPORTS
(GENERAL FUND)

THE OPERATION AND MAINTENANCE OF WASHINGTON NATIONAL AND DULLES INTERNATIONAL AIRPORTS FOR FISCAL YEAR 1987 WILL REQUIRE $34.6 MILLION, AN INCREASE OF $2 MILLION.

WASHINGTON NATIONAL IS EXPECTED TO PRODUCE AN OPERATING PROFIT OF $18.4 MILLION AND WASHINGTON DULLES INTERNATIONAL $4.6 MILLION. AFTER DEDUCTION OF $8.7 MILLION IN DEPRECIATION AND INTEREST FOR THE TWO AIRPORTS, A NET PROFIT OF $14.3 MILLION SHOULD BE REALIZED. THE RATE STRUCTURE AND CONCESSION ARRANGEMENTS AT THESE AIRPORTS ARE ESTABLISHED TO ASSURE RECOVERY OF OPERATING COSTS, INTEREST EXPENSES, AND AN APPROPRIATE RETURN ON THE GOVERNMENT'S INVESTMENT. FEES COLLECTED FROM AIRPORT USERS ARE DEPOSITED AS MISCELLANEOUS RECEIPTS TO THE GENERAL FUND OF THE TREASURY.

CONSTRUCTION
METROPOLITAN WASHINGTON AIRPORTS
(GENERAL FUND)

THE BUDGET ESTIMATE FOR CONSTRUCTION AT WASHINGTON NATIONAL AND WASHINGTON DULLES INTERNATIONAL AIRPORTS FOR FISCAL YEAR 1987 TOTALS $7.0 MILLION. DUE TO THE PENDING LEGISLATION WHICH WOULD TRANSFER THE AIRPORTS TO A LOCAL AUTHORITY, THE ESTIMATE WILL CONTINUE PRESENT OPERATIONS AND PROVIDE FOR REQUIRED ONGOING REPAIR AND REHABILITATION WORK.

GRANTS-IN-AID FOR AIRPORTS
(AIRPORT AND AIRWAY TRUST FUND)

THIS BUDGET PROPOSES CONTRACT AUTHORITY OF $1,017.2 MILLION AND AN OBLIGATIONAL LEVEL OF $712.5 MILLION FOR AIRPORT PLANNING AND DEVELOPMENT. WE REQUEST A LIQUIDATING CASH APPROPRIATION OF $800 MILLION TO PAY OBLIGATIONS FROM PRIOR YEARS, AS WELL AS FOR THOSE EXPECTED TO COME DUE FROM FISCAL YEAR 1987 OBLIGATIONS.

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FACILITIES AND EQUIPMENT
(AIRPORT AND AIRWAY TRUST FUND)

THE FAA'S 1987 REQUEST FOR THE FACILITIES AND EQUIPMENT APPROPRIATION IS $825 MILLION, $125 MILLION LESS THAN OUR FY 1986 APPROPRIATION AFTER SEQUESTRATION. IT IS THE SIXTH YEAR OF THE NATIONAL AIRSPACE SYSTEM PLAN.

FINANCED BY USER TAXES, THIS REQUEST REPLACES OBSOLESCENT, LABOR INTENSIVE FACILITIES WITH EQUIPMENT CAPABLE OF HANDLING TRAFFIC PREDICTED FOR THE 1990'S. IN LIGHT OF THE NATIONAL DEFICIT, FAA REQUESTS LESS THAN THE AUTHORIZED LEVEL OF BUDGET AUTHORITY FOR FACILITIES AND EQUIPMENT. THE UNOBLIGATED BALANCE AT THE BEGINNING OF FISCAL YEAR 1987 IS $1.3 BILLION. THE FISCAL YEAR 1987 REQUEST, COMBINED WITH ANTICIPATED SPENDING OF THE BALANCE, WILL CONTINUE TO SUPPORT THE ESSENCE OF THE NAS PLAN.

TO COMPREHEND A MULTI-YEAR, CAPITAL APPROPRIATION LIKE THIS ONE, OBLIGATION OR PROGRAM LEVELS ARE OF EQUAL INTEREST WITH BUDGET AUTHORITY. WE PLAN TO OBLIGATE, THAT IS, PLACE UNDER CONTRACT - $865.3 MILLION IN FISCAL YEAR 1986. WE EXPECT TO OBLIGATE AT A SLIGHTLY HIGHER LEVEL IN FISCAL YEAR 1987 - $956.0 MILLION.

MAJOR NEW AND CONTINUING SYSTEMS OR EQUIPMENT REPLACEMENT PROGRAMS PROPOSED FOR FUNDING INCLUDE:

- DESIGN COMPETITION PRIOR TO ACQUISITION OF THE ADVANCED AUTOMATION SYSTEM (AAS)
- REPLACEMENT OF 24 AIRPORT SURVEILLANCE RADARS WITH IMPROVED ASR-9 RADARS
- ESTABLISHMENT OF TERMINAL DOPPLER WEATHER RADAR SYSTEMS AT 14 AIRPORTS AND ONE SUPPORT SYSTEM
- REPLACEMENT AND MODERNIZATION OF FOUR AIRPORT TRAFFIC CONTROL TOWERS
- MODERNIZATION AND CONSOLIDATION OF FLIGHT SERVICE STATIONS
- IMPLEMENTATION OF LORAN-C NAVIGATION IN THE NATIONAL AIRSPACE SYSTEM BY INSTALLING FIVE TRANSMITTERS AND ASSOCIATED CONTROL SYSTEMS TO FILL THE MID-CONTINENT SIGNAL GAP

- ESTABLISHMENT OF 56 MICROWAVE LANDING SYSTEMS
- SYSTEM ENGINEERING AND INTEGRATION CONTRACTUAL SUPPORT FOR IMPLEMENTATION OF COMPLEX AND HIGHLY VISIBLE NAS PLAN PROGRAMS

AS I INDICATED EARLIER, THESE PROGRAMS REPRESENT THE ESSENCE OF THE NAS PLAN, WHICH WILL PROCEED ON SCHEDULE. HOWEVER, SOME OF THE LESS CRITICAL PROGRAMS WILL ENCOUNTER SOME DELAY. THESE ARE:

- RADAR MICROWAVE LINK SYSTEM REPLACEMENT AND EXPANSION
- COMMUNICATION FACILITIES CONSOLIDATION
- REMOTE MAINTENANCE MONITORING SYSTEM
- NATIONAL RADIO COMMUNICATION SYSTEM
- TEST EQUIPMENT
- AIRCRAFT AVIONICS

RESEARCH, ENGINEERING AND DEVELOPMENT (AIRPORT AND AIRWAY TRUST FUND)

WE ARE REQUESTING $134.5 MILLION FOR FAA'S RESEARCH, ENGINEERING AND DEVELOPMENT ACTIVITIES. ALMOST 70 PERCENT OF THE FUNDING REQUEST ADDRESSES FOUR MAJOR PROGRAMS. THESE PROGRAMS INCLUDE THE ADVANCED AUTOMATION PROGRAM (17%), THE VOICE SWITCHING AND CONTROL SYSTEM (25%), AUTOMATED EN ROUTE AIR TRAFFIC CONTROL (9%), AND AIRCRAFT SAFETY (17%). THE AIRCRAFT SAFETY WORK INCLUDES ADVANCED TECHNOLOGIES BEING EXPLORED FOR THE DETECTION OF EXPLOSIVES ON PERSONS, IN LUGGAGE, AND IN CARGO. OPERATIONAL TESTING OF THE TRAFFIC ALERT AND COLLISION AVOIDANCE SYSTEM ALSO CONTINUES.

ADDITIONAL FISCAL YEAR 1987 WORK INCLUDES EFFORTS TO IMPROVE THE ACQUISITION, DISTRIBUTION AND DISPLAY OF WEATHER DATA, THE EVALUATION OF NAVIGATION SYSTEMS, AVIATION ENVIRONMENTAL PROTECTION, MEDICAL RESEARCH INTO AIRCREW AND PASSENGER PROTECTION, AND CONTROLLER PERFORMANCE.

THIS CONCLUDES MY STATEMENT, MR. CHAIRMAN. MY STAFF AND I ARE NOW PREPARED TO ANSWER YOUR QUESTIONS.

Mr. **Lehman**. Last December, it was reported that a survey of 1,212 commercial pilots showed that:

two-thirds of the commercial pilots surveyed believe U.S. air travel has become more dangerous since deregulation took effect seven years ago;

more than one-half believe airline maintenance and the quality of new pilots have declined; and

one-third believe that the quality of air traffic control has worsened.

In another poll taken last summer, three out of four Americans polled believed the possibility of being hijacked or blown out of the sky should be a matter of "great concern". In this survey, because of these problems and concerns similar to those of the pilots, 40 percent of those surveyed believed flying was less safe than five years ago and only 16 percent believed it was safer. In similar surveys in 1979, 42 percent believed flying was safer than five years earlier and in 1970, 60 percent believed flying was safer than five years earlier.

I find it alarming that the flying public and the pilots believe the state of aviation safety has deteriorated significantly in recent years. What is your assessment—is it more dangerous to fly than it was five to seven years ago?

Mr. **Engen**. Mr. Chairman, let me start by reviewing what we have done this past year and then get into some of that perception. The National Airspace System Plan Initiatives——

Mr. **Lehman**. Admiral, let me ask question two, because it just enlarges on question one and you can answer them both together.

Mr. **Engen**. Sure.

Mr. **Lehman**. If it is more dangerous, what are you doing about it and if it is not more dangerous, what is causing this perception among the pilots and the traveling public that air travel has become more dangerous?

It is really all one question.

Mr. **Engen**. I could probably spend the rest of the afternoon talking about this, because I have spent my entire life, 24-hours a day, dealing with this, but I will try to be brief.

You know, we are continuing to bring on the National Airspace System Plan Initiatives. They are coming into being and we are improving the system. The air traffic system is maturing as I reported to you earlier. While the traffic increased 3 percent, the operational errors have decreased some 25 percent and the numbers of delays are going down.

We do have increased security because if you stop to think that last year we had some 370 million passengers fly inside the United States and there were two attempted hijackings, which were unsuccessful. I think that tells you that our security is being effective. We certainly are improving our inspection and surveillance efforts because we have redoubled that. In the past year, we have taken to task some 60 individual carriers for certificate action, as well as levied some fines of large proportions.

I am going to continue that. Aviation has always been spectacular though. Ever since Orville Wright took Lt. Selfridge for a ride up here at Ft. Meyer in 1908, and they had that unfortunate accident, aviation has captured the minds of people.

When Selfridge was killed, that was the first time in aviation that people really believed that the Wright brothers were flying and as a result of that we began safety programs.

Unfortunately, I think that World War I and World War II carried on the mystique of flying. It is a very important aspect of our lives. It is romantic. Jet aviation came along and I was privy to the development since World War II. I think that we have seen the aviation industry be very open about how it does business and very quick to share with the public, ills that might be out there. We are fully visible. It is a mode of transport all by itself, because there is no other mode of transport that reports near accidents, such as near mid-air collisions, or looks into the depth and detail of accidents that we do.

By its very nature of seeking and preventing accidents I think that it draws attention. For instance, when you read in the newspaper a transcript of the cockpit voice recorder of an airplane prior to an accident, it is a very arresting story. But we use the recording to prevent accidents.

By its very nature of being open this way, I think that we are seeing the result of people feeling that aviation is unsafe while the reverse is true. Last year, we had less than 1,000 deaths in general aviation, which is the best year that we have ever had. Last year, the commuter airlines had the finest safety year ever. Last year the aggregate safety records of aviation were improving in spite of several tragic accidents that occurred. It really carries a message that the system is, indeed, improving. How can we inform the public so that people perceive that travel by air is not as dangerous as they believe?

Well, the only way to do that is to continue to operate and to prove to people that they are indeed flying or being transported by the safest mode of transportation that there is. As I said, there are 370 million people who flew in the U.S. airlines last year. They freely boarded those airplanes. We forecast that enplanements will grow to 650 million people by the mid-1990's. Now, that in itself, belies the concern that people have or what people say about aviation transport.

I listen to polls and I read public opinion. I deal with professional pilots' associations, both general aviation and airlines, and I want to cater to their concerns. I do not find a degeneration of safety. I have grown up in the system myself, and I have flown in it actively on a daily basis for some 44 years now. I see today, an aviation system that is far better than I have ever seen before. Now, I do not want to paint a completely rosy picture. We have problems to be solved, and that is why we have administrators at the FAA.

We must address people's concerns, but to get to the bottom of how can we improve the public's perception of aviation, I think that it has to be one of understanding. We have to see that the people are indeed, voting with their feet. They are flocking to the airlines to fly freely and openly in numbers never before anticipated.

And that, I think, is public support. We need to continue our spending. We need to continue to the bring on the NAS plan. I view with great concern, as I have said in my opening statement, being constrained at this time, when I see traffic compounding 3 percent annually and I have to take severe budgetary measures when the economy of the nation is improving.

Mr. **Lehman**. Mr. Coughlin.

DEREGULATION

Mr. **Coughlin**. Thank you, Mr. Chairman. I just want to welcome you, Admiral, and your team. I do not envy your responsibility in the sense of keeping both the skies safe and the traffic moving. To some extent it is almost a contradiction in terms. Yet, aviation travel, as you pointed out is, in terms of passenger miles travelled, the safest form of transportation that we have.

I just have a couple of follow-up questions on what the Chairman was saying. A lot of people do blame the underlying safety problems on deregulation, which, in 1978, made the airline industry a free market. In the last five years, the number of air carrier, commuter, and air taxi operators has jumped from 237 to 409. That is a very considerable jump in the number of operators. Can we have airline safety without re-regulation?

Mr. **Engen**. Mr. Coughlin, I would say unequivocally, yes, sir, we can. In the Deregulation Act of 1978, it was, I believe, the sense of the Congress and the nation that we wanted to have a freer ability, at less cost, to fly throughout these United States. We have achieved that.

It has brought a profound change in the system. You cite the air taxi operations as an example, and I will address that in just a moment.

It has brought with the reduced fares and the increased flying that we spoke of, a new way of doing business for the FAA. And we can get into this and discuss it in more detail subsequently, in talking about what we are doing in the inspection and surveillance field. But clearly, we in the FAA have had to accommodate to this change, and we are doing that on a daily basis.

I would cite a figure that comes to mind, that comparing the four or five years before deregulation to the five or six years after deregulation, we have actually improved safety in the system by some 27 percent over what it was before. I did a little homework on another matter here recently, and I looked at a 1969 forecast put out by the FAA, based upon the accident rates for 1965 to 1969.

It postulated in 1969 that there would be 2000 airline fatalities in the year 1985. There would be 5000 general aviation fatalities. You know the figures; they are far, far less than that. In general aviation it was less than a thousand, and in commercial aviation it was considerably less than that, by a factor of four almost.

That says the system is performing well, but what is not said is the fact that we in the FAA must re-double our efforts. We need additional inspectors. We are bringing them on board. We need to change our way of operating, and we need to be sure that our presence is resolute throughout the industry, and I intend to keep it that way.

FAA-IMPOSED FINES

Mr. **Coughlin**. I know you mentioned that the number of fines that have been imposed by the FAA have been increasing. They have gone from about 95,000 in 1982 to 263,000 in 1984, to more than two million in 1985. Those are large jumps.

Some people explain this by saying that even the biggest carriers have abandoned their own higher standards and those minimums prescribed by the FAA due to the continuous price wars.

Can you explain the sharp increase in FAA-imposed fines?

Mr. ENGEN. Yes, sir. In 1984, Secretary Dole had the FAA conduct the NATI, the National Air Transport Inspection, and from that we had a benchmark. From that also, we began in the FAA to get the feeling that we needed to do business a little bit differently.

When I came on in 1984, I began looking at this, and I did not want people to feel comfortable with organizations. I did not want people to understand too much why people did things certain ways. And so we began a program of rotating our inspectors.

We now have a national air transport inspection policy, where we have scheduled inspections for air carriers over a three-year period, and we will go back and visit in-depth with anywhere from 25 to 32 inspectors.

As a result of those inspections, you see better inspection and surveillance on the part of the FAA. We are doing business differently than we did before.

I do not want to say that we did it wrong before, but I think that what I would like to do is capitalize on the positive and say that we are now looking in depths that we had never looked before.

And you are going to see us continue to bore in, and with these additional inspectors that we have coming on board, you are going to see us continue to have people more compliant with the Federal Aviation Regulations.

Mr. COUGHLIN. Do you think the continuous price wars do have an effect on safety?

Mr. ENGEN. Nobody wants to have an accident, least of all, the operator of the airline. If that operator had an accident, people indeed vote with their feet and they do not fly on that airline.

So the air carrier is the one that least wants an accident. We are dedicated to maintaining the safety of the system. We are dedicated that there will not be cost-cutting of maintenance procedures. Where we find that cost-cutting evident, we take summary steps, and we are being very resolute with that.

As an industry standard, I do not see a reduction out there, but I want to add, parenthetically, that we are continuing to look on a daily basis to be sure that it does not happen.

INSPECTORS

Mr. COUGHLIN. And you are rotating inspectors now, so that one airline does not have its own inspector?

Mr. ENGEN. Each airline has its principal operations inspector. Each major airline and trunk airline has its principal operations inspector and its principal maintenance inspector.

Those people do not participate, necessarily, as the lead in the team that comes in and investigates that airline. I might have the same inspector in Boston for a while to look at air taxis, but Mr. Broderick and company are trying to rotate our inspectors in a way that nobody gets to feel comfortable, and that we periodically do move people about so that they can look at different scenery.

Mr. COUGHLIN. Thank you, Mr. Chairman. Let me yield at this time.

Mr. LEHMAN. If it is all right, we will adjourn now and return at 1:30. How late can you go with us this afternoon?

Mr. ENGEN. My time is your time, sir.

Mr. LEHMAN. Thank you very much, Admiral. Probably somewhere around 4:30.

AFTERNOON SESSION

FY 1986 SUPPLEMENTAL

Mr. LEHMAN. The Subcommittee will come to order.

Before we discuss your fiscal year 1987 budget, I would like to review where you stand with regard to the current year's budget.

In the Continuing Resolution, your fiscal year 1986 request for operations was reduced by $55 million. Subsequently, under Gramm-Rudman, your operations appropriation was reduced by an additional $116 million of which you have requested a restoration of $80 million.

How confident are you that your requested $80 million supplemental is sufficient to permit you to maintain a safe and efficient system for the balance of this fiscal year?

Mr. ENGEN. Well, first of all, Mr. Chairman, we will maintain a safe and balanced system for the remainder of the year, taking those steps that I cited before, that might be necessary with respect to constraining traffic, or other management actions.

How confident am I of my requested $80 million? The supplemental may be sufficient. However, I have found in working these cuts that there may be a domino effect. A cut in one area has an impact in another area that does not readily become apparent. So you find my agency continually re-evaluating. If you asked for a hard figure, I would say about 80 percent confident.

ADEQUACY OF SUPPLEMENTAL REQUEST

Mr. LEHMAN. Will your 80 percent confidence mean that there is one chance in five you may have to come back again?

Mr. ENGEN. I am looking, right now, Mr. Chairman, at additional matters inside the agency and taking those steps that I must in order to further constrain my spending.

Just last night I sent out a message to all of my regions and regional directors and severely constrained our spending in other areas. So I am taking those steps right now.

I cannot look you in the eye and say that $80 million is going to do it for me, or it is not going to do it for me.

I am in very dire straits and I am operating very close to the margin. My opinion is that I may have to do some further working, either a zero sum supplemental, or something like that.

Mr. LEHMAN. Let us know as soon as you know.

Mr. ENGEN. Yes, sir. I hate to be so vague, but I am looking at it by the minute.

Mr. LEHMAN. I understand what you are saying.

Mr. **Engen**. I want to impress on you, sir, that we are taking this extremely seriously, and working in a way that we can do it, not in a way that we cannot do it.

Mr. **Lehman**. I know what the alternatives are down the road, but let me know as soon as you decide.

Mr. **Engen**. Yes, sir.

FURLOUGH FACTOR

Mr. **Lehman**. Will your requested $80 million supplemental preclude any furloughs and permit you to continue to hire additional controllers, inspectors, and security personnel?

Mr. **Engen**. My goal is to preclude furloughs. Furloughs are not an attractive option. Secretary Dole and I are both opposed to them, and Secretary Dole is on record as saying that she will not have me furlough any air traffic controllers, safety inspectors or security personnel.

It is not a good alternative. The makeup of my agency is such that it is a whole cloth. I have activities going across my agency in a way that I cannot truly furlough some people without furloughing everyone, or reducing the system capability.

I think this is precluded, but the additional steps I am taking right now, that I took last night, are going to be the telling authority. If I can get my spending down, it will truly determine whether I furlough or not.

ADDITIONAL HIRING

Mr. **Lehman**. You addressed the furlough factor but you did not, as far as I can recall, talk about the need to hire additional controllers and inspectors.

Mr. **Engen**. I will continue to hire those needed additional controllers—.

Mr. **Lehman**. And inspectors?

Mr. **Engen**. I have that fenced. And inspectors. And security personnel.

ABSORBING REDUCTIONS

Mr. **Lehman**. Okay. If Congress were to approve your requested $80 million supplemental, you would still have to absorb approximately $36 million of the Gramm-Rudman reduction as well as the reduction in the Continuing Resolution.

What actions have you taken, or are you taking, to absorb these reductions, and what impact are these actions having on your operations?

Mr. **Engen**. Well, in addition to what I have already said, sir, we are reducing our currency and evaluation flying by 25 percent. We are reducing our travel, reducing the meetings that we are having. We are taking all the administrative actions that we possibly can to reduce, and we are continuing to monitor this on a real-time basis.

Mr. **Lehman**. Do you have interns in your program?

Mr. **Engen**. I have in the past. I do not have this year.

Mr. LEHMAN. You know, we have to give up our summer interns, too.

Mr. ENGEN. We have derived a great deal from our summer intern program and if you want to indulge us a little bit, I would like to have Mr. Weithoner talk a little bit about the good things that we have done in the past.

Mr. LEHMAN. Why don't you put that in for the record?

Mr. ENGEN. Okay.

[The information follows:]

FAA has used the summer employment program for several years. We have hired summer employees in several occupational areas, primarily clerical and nontechnical in nature. This program has proved to be very valuable, and a number of the individuals participating in this program have later been converted to our agency rolls as permanent employees. The program has been a recruitment source and has contributed to our upward mobility efforts. At the same time, it has helped to provide jobs to needy young people.

VOLUNTARY EARLY RETIREMENTS

Mr. LEHMAN. I just wanted to be sure you were not hiring summer interns and we could not.

[Laughter.]

Mr. ENGEN. We are not.

Mr. LEHMAN. In your fiscal year 1987 justification you refer to early outs. Have you requested, or do you intend to request authority from OPM for voluntary early retirement for your employees?

Mr. ENGEN. I considered this fully and looked at it in great depth. It is not considered a good option at this time, so we are not going to go for early outs.

PREMIUM PAY

Mr. LEHMAN. As I understand it, since the strike, you have been paying about half of your employees 5 percent more than the other half of your employees.

The payment of this bonus or premium, which was authorized for certain operational personnel by the fiscal year 1983 Continuing Resolution, is totally discretionary on your part.

Did you consider suspending this bonus and, in effect, equalizing the rate of pay for all your employees as one means to achieve the savings required under Gramm-Rudman?

For how many more years do you intend to pay this strike recovery premium?

Mr. ENGEN. We did consider it and decided against such a suspension. The reason was that cutting the pay to controllers and technicians and a few flight standards personnel at facilities would reduce our spending by about $60 million, but the recipients have come to the agency, under the Revitalization Act, with the understanding that the bonus is part of their pay.

If I take that money away from them this time, it will create an imbalance, and over half the people will feel that they are getting a pay cut, while the other half of the agency is not. It is inequitable.

Mr. LEHMAN. What you are saying is that for many of the out years, you anticipate there will be that two level pay scale?

Mr. **Engen**. I would like to evaluate this on a yearly basis, and we do that on a yearly basis, on the basis of the Revitalization Act.

FY 1986 OBLIGATION RATE

Mr. **Lehman**. In looking at your supplemental budget request, I notice that your actual obligations through February 28, 1986, were $1,163,190,000, or about $232.6 million per month.

If your supplemental is approved, you will have $1,500,919,000 for the last seven months of the fiscal year, which is about $214.4 million per month.

This would seem to indicate that even if your supplemental request were to be approved, you would still need to reduce your obligation rate by an average of $18 million per month. Will you have to reduce your monthly obligation rate for the balance of the fiscal year even if your supplemental request is approved? If so, how will this be accomplished and what impact will it have?

Mr. **Engen**. Yes, sir. I would like the Associate Administrator for Administration, Mr. Goldman, to provide the detail here. I would like to say that, in moving down our expenditure rate, we have come down to a point where we know what we have remaining. We know exactly what our monthly expenditure rate should be, and we are monitoring this on almost a bi-weekly basis.

Brooks, would you?

Mr. **Goldman**. Yes. After the messages that have been sent out to help constrain the agency, one of the items that we added is a monthly real-time report of how our expenditures are going. What we have seen since December 31st, which is when we sent the first message out, is a downtrend in our monthly obligations, and a significant downturn in our daily amounts.

For example, in January, we were expending $243 million per month, and $7.3 million per day. As of March 31st, our March report shows we have spent $207 million during the month of March, and our daily is $6.2 million. So we are going down. We will continue to monitor that as part of this program.

Mr. **Lehman**. Would you provide for the record your monthly operations obligations for October through March and your estimate for April through September, assuming enactment of an $80 million supplemental?

[The information follows:]

The actual obligations for October thru March are as follows:

October	$219,876,855
November	225,797,992
December	278,683,868
January	242,744,153
February	198,835,773
March	207,357,699

Estimated obligations for April thru September are as follows:

April	$245,184,739
May	221,598,886
June	209,028,801
July	220,043,600
August	201,104,400
September	201,852,000
Total	$2,672,108,766

Included in the above is $8 million being transferred into Operations for Air Traffic reemployed annuitants as authorized by the Supplemental Appropriations Act of 1985.

ADDITIONAL CONTROLLERS

Mr. **Lehman**. Would you provide for the record the number of additional controllers, above 14,480, that you could hire this year if funds are made available?

[The information follows:]

If funding were available, we could, as of April 24, add 192 to our training schedule. We are obligated to give a 45 day notice for any increases in training needed, so, as time progresses, it will reduce our ability to adjust the classes. If we do not need to have training slots for the new hires, we could hire any number, limited only by the number on the register and the funding available.

CONTROLLING AGENCY SPENDING

Mr. **Lehman**. Much of your spending occurs at the regional level. How do you control the spending by your various regions to ensure that any reductions are uniform throughout the agency, or at least consistent with the guidance you provide?

Mr. **Engen**. Yes, sir. We do through the Administrator's Management Team. Each Associate Administrator at headquarters sets the policy to be followed for the national programs.

This direction is communicated to the regions via agency orders, handbooks, notices, and other official agency documents. Each Associate has staff members whose responsibility it is to evaluate the performance of our regional directors and regional counterparts, and to assure compliance with that national policy.

But regardless, it does continue to be a management challenge. We further supplement that by messages, one of which I put out last night, that are directly from me to my regional and center directors, giving them specific guidance.

And lastly, I have the Deputy Administrator now chairing a Budget Execution Committee, which meets on almost a daily basis to address our expenditure rates and how we are monitoring our ability to comply with the rates that we have set.

INCREASED CONTROLLER HIRING

Mr. **Lehman**. This committee, as you know, has recommended a fiscal year 1986 operations supplemental of $85 million, and indicated that the additional $5 million should be used to increase your air traffic controller staffing to 14.8 thousand controllers, as specified by the conference report on the CR.

What impact do you believe an increase to 14,806 controllers would have, and if an $85 million supplemental is enacted, would you use these funds to attempt to increase your on-board controller staffing to the 14,806 during the current fiscal year?

Mr. **Engen**. Mr. Chairman, I am going to ask Mr. Weithoner to respond to that question.

Mr. **Weithoner**. We could do the necessary hiring to meet that higher level target, if it came through early enough in the year. It probably takes us between three and four months to go through the hiring process. That would get people on the rolls before the end of the year.

There is another problem when we get to accommodating a last minute increase in the training workload, for example. If they would all report to the academy at the same day, obviously we could not absorb several hundred all at one time. So it would take a little planning and we would need some advance notice.

But the registers, the list of eligibles are adequate, and we can hire additional personnel if the money authorization comes through.

Mr. LEHMAN. The question is, will you? I knew the problem involved, but will you hire these additional people with this 1986 supplemental money?

Mr. ENGEN. We will, if the money is there. Our goal is 14,480, Mr. Chairman, and we will hire additional personnel, as we can, in order to reach that level. Walt, do you want to add anything to that?

Mr. LUFFSEY. Well, keeping in mind that our 1987 goal is 15,000, that would be an increment in the right direction, assuming we can accommodate it based on the planning that Mr. Weithoner just discussed.

Mr. LEHMAN. But, you know, we directed in the CR, that you bring it up to 14,806, which is about 400 more than your own specified goal. Now we are about 400 controllers apart. How do we close that gap?

Mr. ENGEN. Well, let me say as a manager of the system, that the Secretary had authorized us to come up a thousand controllers. We have our system geared to do this, to arrive at 14,480, and we can accommodate some additional at the end of fiscal year 1986. Our goal is to get to the level of 15,000 at the end of September 30th, 1987.

I want to bring those people on board as rapidly as we can, but I want to bring them on in a way that they can be used, and it becomes a matter of training. Mr. Luffsey, do you want to add anything to that?

Mr. LUFFSEY. The only thought that I have is that the throughput of the training system has to be accommodated within the facilities, and that is the only place I would have a concern. We would certainly want to put the controllers where they are going to be the most help to us, and we would have to put them in some rather short-staffed facilities, in terms of being able to train them right now.

So I would have to take a specific look at that, to see if we could handle it.

DEVELOPMENTAL CONTROLLERS

Mr. LEHMAN. After the person moves from the training school in Oklahoma City, is he then a controller?

Mr. ENGEN. No. He is a developmental controller, and he goes to a center, or a terminal facility.

Mr. LEHMAN. He is not counted among those 14,000?

Mr. ENGEN. He is counted amongst those 14,000 but as a developmental controller; yes, sir.

Mr. LEHMAN. Mr. Coughlin, before we move to 1987, did you have a question?

FY 1986 OBLIGATION RATE

Mr. Coughlin. Thank you, Mr. Chairman. I am concerned about this question of your obligation rate. You really knew back last October that you were going to have to reduce your obligation rate. Why are we just starting now?

Mr. Engen. Well, let me take that, Mr. Coughlin. Last October, we did know that, and we put out guidance to reduce the expenditure rate. On December 31st, I put out specific guidance which really reduced that expenditure rate. I have found, subsequent to that, that it is necessary to take another turn on the vernier, and it is a continuing process. So I am coming down each time. The step I took last night is in addition to that which I did last October, and I did on December 31st.

Mr. Coughlin. And do you have any contingency plan if a supplemental is vetoed?

Mr. Engen. I will look you in the eye, and tell you that there is no way that we can operate this agency without money, and if that supplemental is not there, I am going to have to take some very drastic action, such as reducing the flow of air commerce in the United States.

Mr. Coughlin. Thank you, Mr. Chairman.

Mr. Lehman. Mr. Sabo.

MINNEAPOLIS-ST. PAUL ILS

Mr. Sabo. Thank you, Mr. Chairman, and welcome again to the Administrator. Last year, both the House Report and the Conference Report on the Continuing Resolution for fiscal year 1986 directed the FAA to fund an ILS at Minneapolis-St. Paul International Airport.

Can you tell me what the status of that is?

Mr. Engen. It will take us a second, Mr. Sabo, but we will do that.

Mr. Pozesky. The funding has been established, and we are moving on that project. If you will give me about 30 seconds I will have the information.

DIRECT USER ACCESS TERMINAL SYSTEM

Mr. Sabo. Okay. Let me ask the second question while he is looking. It is a question concerning the Direct User Access Terminal System, DUATS.

As you know, Minnesota and Wisconsin provide pilot access to computer weather briefings at locations throughout each State.

Some of us are concerned that DUATS may be duplicative, and that we could be asked to fund development of a system that is already commercially available.

Last year, the House report directed FAA to issue a report indicating when DUATS is expected to be available, its cost, whether it would be as complete as the services provided by the commercial vendors, and whether services like those provided by Minnesota and Wisconsin are currently eligible for funding under the Airport Improvement Program.

What is the status of the report, and what conclusions have been reached?

Mr. ENGEN. I am going to ask Mr. Frisbie to make a comment on the report, but let me lead off by saying that we are evaluating, now, the use of current technology with respect to direct user access, and we are coming to grips with an accommodation within the agency to use existing technology in an effort to reduce costs.

Mr. SABO. I guess my question relates to existing service. It is existing technology, but it is also existing service.

Mr. ENGEN. I would not argue that. You are speaking of——

Mr. SABO. Of the Minnesota and Wisconsin programs.

Mr. FRISBIE. Mr. Sabo, we have talked to the people in Minnesota and Wisconsin, and are aware of the systems that they have. As the Administrator indicated, the way that we expect to proceed would be very much along the lines that are being done in those States. That is to say, that the DUATS system would take advantage of the services that are commercially available.

With regard to your question about the availability of grant money to provide service like those provided in Minnesota and Wisconsin, it is my understanding that our lawyers have said that we cannot allocate grant money for this purpose.

Mr. SABO. What about by contract?

Mr. FRISBIE. We could contract for this service yes, sir.

Mr. SABO. And you are going to look at that?

Mr. ENGEN. We are looking at the nationwide problem; yes, sir. The action needs to be taken on a nationwide basis rather than regionally.

Mr. SABO. Our concern is that a developed system that is working well, not be duplicated, and if it fits the national system, that the States be eligible for some funding, whether it is—if you cannot do it directly, through a contracting basis. It would hardly seem fair, that if they develop——

Mr. ENGEN. I understand.

Mr. SABO [continuing]. And continue to operate it, that they are ineligible, while something new——

Mr. ENGEN. Yes, sir. One of the concerns that the States have is their cost of operation. The communications cost of operating those systems is significant, and they are concerned about the cost burden on the State. In principle, if we were to go ahead with a national system, that system would be available in those States as well, and would largely relieve the States of that burden.

Mr. SABO. It might be the existing system is as good as or better than the proposed one.

Mr. ENGEN. Yes, sir.

Mr. SABO. I would think that option could be looked at.

Mr. ENGEN. Yes, sir.

Mr. SABO. Did you find the answer to that earlier question?

Mr. POZESKY. Yes, sir. I did. We are expecting the commissioning in late 1987.

Mr. SABO. That long?

Mr. POZESKY. Yes, sir. We have to procure the equipment and do site preparation. It does take a while to obtain and install the equipment.

Mr. **Sabo**. But everything installed, and that is the normal time span?

Mr. **Pozesky**. Yes, sir.

LOCAL AIRPORT OPTIONS DEALING WITH NOISE

Mr. **Sabo**. Another question for the record. I would like to have you list, for the record, for me, the options local airport authorities have to deal with the noise problem.

I know there is an ongoing debate, whether the FAA should or should not act, and I do not want particularly to get into that, but I constantly get conflicting answers to that question, of what local authorities can or cannot do. Folks will say they can do something; others will say no, FAA says we cannot do that.

If you can give me, for the record, not today, a comprehensive list of options available to local airports.

Mr. **Engen**. Yes, sir.

[The information follows:]

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The Aviation Safety and Noise Abatement Act of 1979 and its implementing regulation, FAR Part 150, set forth the most commonly used options as identified below. The law and regulation are not limiting and leave open a number of other possible options available. In addition, there may be local permutations of any of these or other options which would have a beneficial noise abatement impact at a particular airport. In summary, the options are many and varied, although a number of them cannot be implemented by the airport operator alone, but must be acted upon by either the FAA or other Federal agency, the users, state and local governing bodies, or private citizens.

Options Set Forth in Part 150

° Land acquisition, easement, and development rights to assure compatible land uses;

° construction of barriers and acoustical shielding, including soundproofing of buildings;

° preferential runway system;

° flight procedures, including modified flight tracks;

° restrictions on the use of an airport by type or class of aircraft based on noise characteristics of the aircraft, including:

  - denial of use of the airport to aircraft types of classes not meeting Federal noise standards,

  - capacity limitations based on the relative noisiness of different types of aircraft,

  - noise abatement takeoff or approach procedures approved as safe by FAA,

  - landing fees based on FAA certificated or estimated noise emission levels or time of arrival,

  - partial or complete curfews.

Other Options Available

° Purchase guarantee or purchase transaction assistance (i.e., the airport operator offers to acquire homes or provide assistance in selling if homeowners desires to sell and cannot do so on their own);

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- compatible local zoning;
- private redevelopment initiatives for compatible uses;
- building code standards;
- development or revision of local comprehensive land use plans;
- transfer of development rights;
- local subdivision regulations;
- use of public capital improvement projects to promote compatible uses;
- real property noise notices;
- noise monitoring;
- citizen noise complaint and follow-up systems;
- public information activities;
- creation of airport/aeronautical uses/community group to monitor noise situation and recommend additional remedial actions;
- pilot information programs;
- voluntary pilot noise abatement practices;
- engine ground runup restrictions;
- aircraft towing;
- installation of fixed ground power units at aircraft parking locations;
- restriction on training operations;
- use of reliever airports;
- changes in runway location, length or strength;
- displaced runway thresholds to move landing point;
- relocated airport ground facilities;
- installation of navigational aids to assist in modified flight procedures;
- preferential runway use.

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These lists are not exhaustive. As an example of a local permutation, the airport at Jackson Hole, Wyoming prohibits in their airport tenant contracts the origination of commercial scenic or charter flights or training over noise sensitive areas of Grand Teton National Park.

The FAA strongly encourages airport operators to pursue noise abatement options within the framework of FAR Part 150; however, this is voluntary. Whether working within the framework of FAR Part 150 or not, airport operators may select a combination of options which are meaningfully related to the site-specific noise problem and are not arbitrary and capricious; which would not create an undue burden on interstate or foreign commerce, unjustly discriminate against types or classes of aeronautical uses, violate the terms of airport grant agreements, or intrude into areas preempted by the Federal government; and which would not involve the use of flight procedures which would derogate safety, adversely affect the efficient use and management of the navigable airspace and air traffic control systems, or adversely affect other powers and responsibilities of the FAA Administrator prescribed by law.

MILITARY AIRLIFT COMMAND LIAISON WITH FAA

Mr. Sabo. Thank you, sir, and thank you, Mr. Chairman.

Mr. Lehman. Mr. Durbin.

Mr. Durbin. Thank you, Mr. Chairman. Mr. Engen, welcome to the Committee. I appreciate the opportunity to see you again. One of the concerns we all share is the crash of the Arrow Air charter flight in Newfoundland. A GAO study which followed that crash indicated that there was little evidence that the problems the FAA found with some of the aircraft involved in subcontracting with the military services had been communicated to the military command. This has been addressed by legislation H.R. 4014, introduced by Congressman Charlie Bennett, which would require the Department of Defense to conduct its own investigations on this type of charter aircraft.

What action has the FAA taken to prevent this sort of thing from happening in the future, and what is your position on that legislation?

Mr. Engen. Let me start, Congressman Durbin, and I'll ask Mr. Broderick, Associate Administrator for Aviation Standards, to pick up on it.

First of all, we have had a liaison program with the Military Airlift Command over the years, and a few years ago the military liaison officer billet was allowed to lapse a little bit.

We have renewed that billet to be sure that there is, indeed, close cooperation between the Military Airlift Command and the FAA. We are meeting on almost a daily basis to insure that that is done, in fact.

This is of concern to me that the responsibility for civil aviation safety resides in one place. We can ill afford to have a dual responsibility, because that leads to confusion. So, the FAA will retain that civil authority. I am working with the DOD and specifically the Military Airlift Command to be sure that they understand that they have the right not to lease or charter aircraft based upon their own desires.

But I'm working very carefully with them to be sure that we don't have duplicative inspection procedures. That authority must reside in one place.

Mr. Broderick?

Mr. Broderick. I think the fact is that we are working a lot closer with the Military Airlift Command and the Military Traffic Management Command than has been the case in the past.

They are invited to observe any inspections of carriers that are conducted by us that they contract with. They participate in the out-briefings of those if they choose. They are provided immediately with reports, not only of these investigations, but of any significant finds or incidents or accidents that involve those airlines.

The re-establishment of this Military Airlift Command liaison position, coupled with these measures and a complete re-write of the agreement between the two organizations on exactly what information to exchange should eliminate that problem from occurring again.

Mr. Durbin. Did you review that GAO report?

Mr. Broderick. Yes, sir; I have.

Mr. **Durbin**. What led to that situation where you would have an inspection which didn't detect obvious deficiencies, and those deficiences which were detected weren't communicated to the military authorities? How did we get into that mess?

Mr. **Broderick**. Well, I think that the deficiencies that weren't communicated to the military authorities were immediately corrected if they involved safety. It was not our view at the time that the order was written, some ten or twelve years ago, that all deficiencies should be reported to the military, because of their small staff and lack of ability to deal with that.

We did report any problem areas to them, but a problem to us was an unresolved safety deficiency. Frankly, we will not allow an unresolved safety deficiency to continue. We'll stop it somehow.

Mr. **Durbin**. The GAO report said, and I quote, "their inspection of the two carriers, Air Resort, and South Pacific, raised a number of questions about the FAA's ability to identify air carrier violations and see that they were remedied in a reasonable period of time."

That's a little different than the response you just gave. They question whether or not you could identify the violations themselves, not whether an incorect judgment was made about whether the violation should be corrected on the spot, or passed along to the military for consideration.

Mr. **Broderick**. I think that there are two responses to that. One is that there were deficiencies that were not identified several years ago in those carriers. We have made a lot of changes in the flight standards operation since then.

In addition, the identification of a deficiency is in itself a judgment call. There rarely are things just specifically black and white. It involves a lot of technical judgment in a complex area.

GAO REPORT ON SAFETY

Mr. **Durbin**. Thank you. Mr. Engen, we had earlier testimony today from the GAO which I imagine you are acquainted with. Among other things they suggested, in response to questions I asked, that the level of safety available to America's airline passengers today, particularly in reference to air traffic controllers and inspectors was lower than the level of safety in 1981. Do you agree with that?

Mr. **Engen**. I do not, sir.

I respect the General Accounting Office, and I think they do very good surveys and I think that they conduct very good opinion polls.

When it comes to the responsibility of safety and the responsibility of the operation of the system, they don't have that responsibility. As I said this morning, I find the system itself is better today than it ever has been before. Does that mean that it's trouble-free? It does not.

It means that we're capable of dealing with the safety and operations in the United States today better than we ever have before.

There's going to continue to be a need to upgrade the system, and that's what we work at 24 hours a day.

Mr. **Durbin**. I think the GAO anticipated that response, that they are not experts in the field. They told us that they relied on the Flight Safety Foundation which concurred in their conclusions. Do you find the Flight Safety Foundation to be a credible source of information on this?

Mr. ENGEN. I find the Flight Safety Foundation to be credible, yes, sir. And I also once again would say that based on the criteria that we have today, based upon the through-put in the system, and based upon the accident rates that we have evidenced over the last ten years, the system is better today than it has ever been.

INCREASED AIRPORT SAFETY AND SECURITY

Mr. DURBIN. I might just say the Foundation came to the same conclusion as the GAO. In fact, they may have led them to their conclusion on that question.

A couple of other areas concern me. One that's very topical is the question of airport safety and security. With the terrorist activity around the world, I'm afraid it's going to be in the headlines for many months to come.

Did you anticipate, or do you anticipate any increased demand for services from the FAA in that area in your budget request this year?

Mr. ENGEN. Yes, we do. As you know, we have a Federal Air Marshal Program which is ongoing and is effective.

We are moving throughout the world to international airports where U.S. carriers fly, and are continuing to inspect to insure that the air carriers and the airport authorities adhere to the international requirements. Flying the airplanes and conducting the security checks is a responsibility of the carrier and the airports but we do on a daily basis move throughout the system.

I would add also that just yesterday I spent a good amount of time on the telephone talking to TWA President Dick Pearson, and to Marty Sughrue, Chief Operating Officer of Pan American.

On a real time basis we are working with the air carriers to help them understand what the situation is out there, and we have a good flow of information that does pass directly to the air carriers.

Mr. DURBIN. Have you identified any airports overseas where U.S. carriers fly that you consider to be too dangerous at the present time, from a security evaluation, for Americans to use?

Mr. ENGEN. I'm going to ask Mr. Broderick to make a direct comment on that. We continually upgrade our evaluations. There have been airports where we have implemented special procedures.

Those airports are known to the air carriers. The State Department comes into this with respect to travel advisories, and I don't put out travel advisories. I deal in the technical ability to maintain security, and then go to the State Department for travelers' advisories.

Tony?

Mr. BRODERICK. At the present time we have no airports where we have identified unsafe conditions from a security standpoint that we have not banned or removed from the list. There are a couple of airports, of course, that carriers are not allowed to fly into. Beirut, for example.

Any time we find the condition that you just described, we have the statutory authority in the Department of Transportation to immediately suspend service to those points, if that is necessary.

Mr. **Durbin**. This is an ongoing function, I take it?

Mr. **Engen**. Yes, sir.

Mr. **Durbin**. Do you have the resources to carry this out now that we are facing, it appears, increased threats abroad for American travelers?

Mr. **Engen**. We do.

Mr. **Durbin**. Do you think your request in next year's budget will be adequate under the circumstances we're faced with now to meet this threat?

Mr. **Engen**. It's my best judgment we do and it will.

TERRORISM

Mr. **Durbin**. Can we anticipate any changes in the procedures for American passengers at American airports from a security viewpoint in the coming year?

Mr. **Engen**. Terrorism is an international problem It's not an aviation problem; it happens to focus on aviation. Terrorism, unfortunately, is moving towards the United States. I anticipate, first of all, that we will be increasing our inspection criteria. I'm working with the air carriers on a daily basis. We are devising ways to have greater interest on the part of the security guards. As you know, we're training flight crews and station crews with respect to security.

We will be developing greater security procedures, which I hope will be transparent to the individual passenger. But that doesn't mean that on given occasions we won't get down to increased baggage search and even to, if justified, a body search.

Mr. **Durbin**. Do you anticipate limiting the amount of carry-on baggage for passengers in an effort to reduce the possibility of smuggling weapons or incendiary devices?

Mr. **Engen**. I think that's certainly one option.

I might add, Mr. Durbin, it's my view that if we can reduce the amount of carry-on baggage, we also improve the cabin safety, the survival of people there. We have a rulemaking in progress right now, not yet implemented, which would address reducing the amount of carry-on baggage.

AVIATION TRUST FUND

Mr. **Durbin**. I would like to ask you another question that relates to the Aviation Trust Fund. If I read the figures correctly it's anticipated that we'll have a balance in that fund of $4 billion by the end of the next fiscal year. This money is collected from users for the purpose of improving airports and airport safety.

How can we justify to these passengers, in light of everything that's facing us in the aircraft industry, the collection of this tax and our refusal to spend it, when there are clear and obvious needs?

Mr. **Engen**. If I could say, please don't say "refusal to spend it," because we do fund our system, buy our facilities and equipment, through the Aviation Trust Fund.

I'm going to ask Mr. Peterson to address the utilization of that money, but before I pass it to him, I would like to say that it's our goal to use that Trust Fund. About 92 percent of it comes from the eight percent ticket tax; about six percent comes from the 12 to 14 cents a gallon aviation gas tax. The rest comes from the three dollar departure tax at international airports. The money is being used at this time.

Mr. PETERSON. Sir, in fiscal year 1987, three appropriations from the FAA are totally funded from the Trust Fund. These are the Facilities and Equipment Appropriation; the Research, Engineering and Development Appropriation; and, the Grants-in-Aid liquidating cash Appropriation.

In addition, there is an initiative contained in the President's budget to finance 75 percent of FAA's operating costs from the Trust Fund. Combined with the other appropriations, this would result in 85 percent of FAA's total budget, both capital and operating, being financed from the Trust Fund.

Mr. DURBIN. What do you anticipate that the balance in the Trust Fund will be at the end of this fiscal year, and the end of the next fiscal year?

Mr. PETERSON. For Fiscal Year 1987, the uncommitted balance will be reduced to $1.4 billion from the fiscal year 1986 balance of $2.7 billion.

Mr. DURBIN. What will be the balance coming out of this fiscal year, your best estimate?

Mr. PETERSON. It's about $2.7 billion.

Mr. DURBIN. So you'll be reducing it by $1.3 billion.

Mr. PETERSON. By the initiatives that were contained in the President's fiscal year 1987 budget, yes, sir.

Mr. DURBIN. Do you have any particular reason why you want to maintain a carryover of $1.4 billion? Is there a reason other than the effort to make the overall budget look good?

Mr. PETERSON. I think there are very sound reasons why there has to be a balance in the Trust Fund of a certain amount. Much of this gets into economic forecasting, and Mr. McDaniel might want to address that.

Mr. MCDANIEL. Yes, as Mr. Peterson has said, there's a need for some balance to cover unanticipated changes and unexpected developments might occur over time. We are not unmindful of the balance, and will be looking at that in formulation of a new set of authorization proposals as we move forward into the 1988–1992 time period.

TRUST FUND COLLECTIONS

Mr. DURBIN. How much do you expect to collect during fiscal year 1987 for the Aviation Trust Fund? Is the figure $4.076 billion accurate that I see here?

Mr. MCDANIEL. We expect to collect about $3.2 billion in revenues, excluding interest on the balance.

Mr. DURBIN. $3.2 billion, and you will leave a balance of $1.4 billion in the fund, is that right?

Mr. MCDANIEL. $1.4 billion is corrent.

Mr. DURBIN. So you'll be spending about half of what you collect?

Mr. **McDaniel**. No, we are requesting Trust Fund appropriation for FY 1987 of $3.8 billion. This exceeds tax revenue by $1.6 billion.

TRUST FUND BALANCES

Mr. **Engen**. I might point out, Mr. Durbin, the remainder of the balance in that Trust Fund wouldn't begin to pay for the equipment that we have planned to procure under the National Airspace System Plan.

Mr. **Durbin**. Well, the question I have, of course, and it gets to sound budget practice, is what balance is necessary to carry forward. There has been a concern expressed to me, and a legitimate concern, that we have been sitting on balances in that fund when there are clear and obvious needs for improvements in America's airport systems.

I can understand, given our current budget situation, why OMB might want to see the budget balanced in the Trust Fund. But I don't think it's fair to the passengers and people paying into the Fund to collect this tax and not use it for the purpose it's collected.

Mr. **McDaniel**. Could I just clarify a point? The balance would not increase during 1987, with the budget that's been presented. It would actually decrease as a result of expenditures exceeding by some significant amount the income for the Trust Fund.

Mr. **Durbin**. So you would spend this year's budget balance, and then a substantial part of next year's?

Mr. **McDaniel**. Yes, the balance would be reduced significantly.

MLS CONTRACT SCHEDULE

Mr. **Durbin**. The $43 million FAA budget request in fiscal year 1987 for 56 MLS systems is identified as a new award for the first portion of a multi-year commitment.

Given the already announced ICAO extension of the ILS protection date to 1998, a significant slip in the current MLS contract schedule, and Gramm-Rudman, should initiation of a second procurement be delayed until fiscal year 1988?

Mr. **Engen**. I would like the second procurement to come along in as natural a progression as we can, Mr. Durbin.

The MLS represents an upgrade to our system that is vital for traffic flow in the future. It provides not only an arrival path, of curved and varied approach paths, but departure paths as well.

This impacts upon our ability to control noise around airports, and, indeed, on safety of the people below the flight paths.

The MLS is indeed a very significant upgrade. We've met some resistance from the general aviation community which is concerned about the cost of buying avionics equipment.

I am trying to meet that concern by explaining to people that when we first started putting in VHF communication sets into our airplanes, we were paying $3,500 for them.

Today you can buy one for somewhere from three to six hundred dollars. The MLS avionics will come down as well, while we're upgrading the capability of the system.

Long answer, but I just wanted to make a point for the record, and I would like to continue with that follow-on procurement.

Mr. **Durbin**. I don't think there's any argument about the need for this research and development. The question is whether or not in light of the factors I have mentioned, we could justify delaying this procurement until fiscal year 1988, realistically acknowledging the factors that I mentioned.

Mr. **Engen**. There is no more research and development on the ground equipment to be done. It has been developed, sir.

Mr. **Durbin**. But the development of the prototype, I understand, is what the state——

Mr. **Engen**. We're currently in a production contract.

Mr. **Durbin**. The question that has been raised is whether or not in light of the slip in the MLS contract scheduling, and Gramm-Rudman, whether it would be advisable to wait another fiscal year to make certain that we've got all of the competitors on board.

Mr. **Engen**. Hazeltine is the firm that has the production contract for 178 MLS's. We will receive delivery of 26 MLS systems in 1987 alone. That is a contract that is in being, and I need to continue to plan ahead with respect to the follow-on to that.

Mr. **Durbin**. I may have a followup letter to you for more detail. Thank you very much. Thank you, Mr Chairman.

Mr. **Lehman**. Thank you, Mr. Durbin.

Mr. Wolf.

GAO STUDY

Mr. **Wolf**. Thank you, Mr. Chairman. I want to welcome you, Admiral. I have a series of questions, but rather than taking the committee's time, I would like to submit a lot for the record. But let me ask several.

On the GAO study, do you have any plans to sit down with the GAO investigators in a series of meetings to evaluate what their recommendations are and come up with some action?

Mr. **Engen**. I appreciate what the GAO does, and they're very considerate in the sense that they keep us advised as they go along to the extent that they can, with respect to Congress.

They have kept me apprised of their progress and the air traffic control attitude survey that they did. They have kept me apprised in other areas. We do work with them. I will not let any opinions go by out there, and I will continue to work with the GAO.

I would address their concerns. I find frequently that we have differing opinions, because they come from a different place.

But I try to accommodate that, and I view them as a helpful thing to the FAA.

Mr. **Wolf**. You have an ongoing dialogue with them?

Mr. **Engen**. Yes, sir.

RETIREMENT ANNUITY TAX

Mr. **Wolf**. The morale problem with regard to the air traffic controllers. I'm not talking about the GAO study now. I'm talking about something different.

In the House-passed tax bill, there was a provision on the three year basis recovery rule.

We have a report from a number of Federal agencies, yours included, saying that if this were to pass, that it would have a severe impact on the FAA and other agencies. Today, this morning, the Senate Finance Committee voted on a voice vote to strike that provision from the Senate bill. So we now have a conferencable item, whereby we can hopefully work this out.

Congressman Hoyer and Senator Trible and I have been working on a lot of ideas. Would you state something for the record as to how important it would be to keep the people that you have?

Mr. **Engen**. Yes, sir. May I do it right now?

Mr. **Wolf**. Yes, sir.

Mr. **Engen**. First of all, many of these fine gentlemen at this table would fall into a category that would have to rethink their personal lives if something like that were passed.

In the air traffic control system, for instance, I have a continual float of about 2,700 people who could retire, are eligible to retire. If such a thing were passed which would alter their retirement benefits, or the way they're computed, it would have a very serious effect upon the FAA.

I view it with grave concern. I've traveled throughout these United States. I've been to every one of my 20 centers. I've been to a majority of the level four and level five terminal facilities, and without exception people have expressed concern to me about this.

It would have a very severe effect upon morale in the FAA.

Mr. **Wolf**. Well, Admiral, I appreciate that, and I appreciate your answer. It takes us sometimes weeks to get this transcript. Would you mind giving me a letter to that effect?

Mr. **Engen**. Yes, sir.

HELICOPTER TRAFFIC ROUTES AT NATIONAL AIRPORT

Mr. **Wolf**. And if you would transmit that concern to Mrs. Dole, I would appreciate it, because I think we're at the point now when these two bills go to conference, we may have an opportunity to knock this out, which I think would be an advantage to us.

So I want to thank you for that.

Next question deals with the near collision at National Airport last year with the helicopter. NTSB recommended standard departure and arrival routes for helicopter traffic at National and other airports. Have you responded to that as of yet?

Mr. **Engen**. I have. In fact, before the NTSB got into it, Mr. Luffsey and I established a review committee and we have gone into great depth with the departure helicopter traffic routes in Washington.

Have I responded outside the agency? I have not. But we have critically evaluated it. I had a team of about six people sit down and go over in great detail what we can do to insure that that does not occur again.

When you deal with people, you deal in human error. And in that particular case, there was a well qualified air traffic controller who made a mistake; the helicopter pilot saw the mistake and didn't cross the runway. The Eastern Airlines pilot saw the mistake and aborted his takeoff.

Everything came together to prevent that accident, but it did teach us that to err is to be human, and we need to insure that our procedures are error free.

RUNWAY 18-36 EXTENSION

Mr. **Wolf**. Okay. Runway 18-36: I had sent you a letter about the runway and it being 750 feet as opposed to the ideal 1,000 feet. I know there have been some environmental concerns about extending that runway, but why can't we extend it to 1,000 feet, perhaps—and I'm talking about the overrun—with maybe a mechanism of pipes or a tunneling device whereby the water could flow back and forth with the tidal effect. Have you looked at that?

Mr. **Engen**. The Environmental Impact Statement on airport changes sometimes assumes major proportions. I wasn't here when that was done.; however, some of these gentlemen were. It was an extremely costly overrun, but it has indeed already paid off.

Mr. **Wolf**. Yes, the overrun has.

Mr. **Engen**. It has. I don't want to say no it can't be done, but I would like to say that for the cost, for that extra 250 feet, I don't think is going to buy us that much more.

Mr. **Wolf**. Could I ask you to look at it again?

Mr. **Engen**. Yes, sir.

Mr. **Wolf**. And I see Jim Wilding out there. I think the record should show that there was a lot of opposition by a lot of groups not to have that overrun. Jim Wilding—and I supported him in that—Jim Wilding was the one who stayed in there. Sometimes when everyone's against you, it's easy to fold, and the fact that it didn't fold, I think saved a lot of lives that time. And I think you're to be commended and Jim is to be commended.

EMPLOYEE RELOCATION

Mr. **Wolf**. Last year, I asked you about employee relocation. Senator Warner and I had passed that bill. You were going to have a contract with the FBI with regard to that.

Mr. **Engen**. It came to pass, and it is in our budget this year. I might say that it is costly. We are finding that in some cases, the cost of a move exceeds that which we have estimated, but it is in being and it is a working program. It has brought a great amount of well-being and good feeling in the FAA.

Mr. **Wolf**. The purpose of the legislation was to reimburse the Federal employee but there was a hidden purpose. We required that the Agency take it out of your budget with the idea that hopefully you would not transfer people around so much.

When someone has children who are in the high schools and all, and the debating team or the football team or whatever, it is very disruptive to move them from Leesburg to Buffalo or someplace like that. We hope that it is not very expensive because you do not move people around very much.

Mr. **Engen**. It is having the desired effect.

DULLES ACCESS ROAD

Mr. **Wolf**. That is good. The last question—I do not know who should answer this, but I will ask you and I know that you do not get involved in this much detail, maybe you do, but I would thank you and Jim Wilding for allowing buses to use the Dulles Access Road. The agreement has been made. Do you know where we are on the building of the slip ramps for bus access onto the Dulles Access Road?

Mr. **Engen**. I would defer to Jim.

Mr. **Wilding**. It is coming very shortly. The highway department folks from Richmond are coming up. As a matter of fact, they are coming up on Monday to put the finishing touches on the details. I think that the ramps will then be in there very quickly.

AIRPORT TRANSFER BILL

Mr. **Wolf**. Thank you, Jim.

One last question and then I see my good friend from Michigan there, Mr. Carr. The Airport Transfer Bill which passed the Senate, 62 to 28 or something like that. Would you state for the record how important that piece of legislation is in the sense that by passing the legislation in the Congress, it would be much faster for improvements to be made at the airports? Dulles is bursting at the seams, with 2.1 million passengers in 1981 and 5 million passengers last year. This year 7.5 million passengers are projected.

There are two parts to the question. One, if the Federal Government was to fund all of the improvements that are necessary at the airports now, what would that cost them?

And secondly, by transferring—of course we are not transferring the ownership of these airports, the Congress and the Government will still have it, but it will be on a 50 year lease—could we not make those improvements at the airport faster since the locals would be willing to fund the improvements rather than the Federal Government?

There are really two questions there.

Mr. **Engen**. With respect to the airport legislation that Congressman Wolf, you have spoken about, the Department and the FAA, as you know, are highly supportive of this. Since I have been Administrator, over these past two years, it has been an enigma to me trying to get the money to improve Dulles to the extent that I can. Quite candidly, I meet resistance on both sides of the fence, from Congress and from within my own organization. In the past, we have not been able to cause the mid-field terminal to be built. There just was not money available to do it. The airports are operated at a profit. Now, the airports put money into the general fund. There is a very real need to improve the roadway system, and the terminals and the access from the Metro Station at Washington National. There is a very real need for a mid-field terminal at Dulles. It was apparent two years ago and it is even more apparent today.

And starting May 1, when further hubbing operations will take place there, it is even going to be more apparent. By allowing these airports to be managed by a local organization or authority, if you will, this is going to get us that flexibility. It is going to allow us to let those airports grow with the economy and it is going to allow us to make the improvements out there that we need, because airports are clearly the restricting thing in the United States today—we need to improve our airport system.

CAPITAL IMPROVEMENTS FOR NATIONAL AND DULLES

Mr. WOLF. For the record, do you know how much this airport transfer bill would save the Federal Government and reverse that answer, by how much would the necessary improvements cost the Federal Government if they kept the operation of the airport?

Mr. ENGEN. Let me please provide that for the record?

Mr. WOLF. Okay.

[The information follows:]

We addressed the financing of needed capital improvements at National and Dulles airports in a report transmitted to the chairman of the House Subcommittee on Transportation, Committee on Appropriations on March 19, 1986. A copy of this report is provided for the record.

137-1

THE SECRETARY OF TRANSPORTATION
WASHINGTON, D.C. 20590

MAR 19 1986

Identical to: Hatfield & Andrews

The Honorable Willim Lehman
Chairman, Subcommittee on Transportation
Committee on Appropriations
House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

The enclosed report is in response to the direction contained in the House Committee on Appropriations' Report 99-256, dated September 5, 1985. While the Committee focused on the needed federally financed improvements at Washington National and Washington Dulles International Airports, we must recognize that the improvements described in the enclosed report are desirable regardless of who operates the airports or how the improvements are financed. Our very strong view that this level of capital investment cannot effectively compete with other Federal budget priorities has resulted in the clearly inadequate arrangements at National Airport and the shortage of parking at Dulles. As the report shows, demand for facilities at the two airports will require funding in the range of $530 to $700 million in capital improvements to meet projected growth, particularly to allow several "hub-and-spoke" operations that are developing at Dulles International. Overall aviation and other budget priorities, however, will not permit a federal expenditure of this size at this time and at the expense of other worthy aviation projects nationwide. By way of comparison, since 1982 when the airport grant program was established, Atlanta Hartsfield has received the most grant money — only $75 million.

We believe that the airport operating role and responsibility for the funding of needed capital development should be transferred to a new airport authority. Legislation has been introduced in both Houses of Congress to accomplish this transfer.

Currently, the Department of Transportation is requesting Federal funding only to the extent necessary to continue present operations and provide for required ongoing repair and rehabilitation work. The new airport authority would then have the responsibility of funding all of the major new capital development at both airports. We believe that the airports' underlying financial strengths, coupled with the new authority's access to the private bond market, would make these types of development quite achievable. In addition, this preferable airport arrangement would give the airports access to the Airport and Airway Trust Fund on the same basis as other airports nationwide.

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Because the funding of these improvements is best accomplished by the new airport authority, we are reluctant to prejudge how they might plan and schedule the needed improvements. However, with the continuing rapid growth at Dulles, a 47% increase in 1985 alone, and the accelerating pressure on Dulles' facilities, we are confident that the new authority would commence funding and construction activities during its first year of operation. We expect the long overdue improvements at National Airport to begin within the same time period. We are also confident that the new authority will assess the needs about the same as we have, as detailed in the enclosed report. These assessments are drawn from a substantial amount of planning work performed over the past several years.

I believe that you will agree with us that the facility improvements described in the enclosure are truly needed. I trust that you will back our efforts to improve the airports by supporting the transfer legislation.

Sincerely,

Elizabeth

Elizabeth Hanford Dole

Enclosure

137-3

DOT Report in Response
to House Report 99-256.

METROPOLITAN WASHINGTON AIRPORTS - CAPITAL DEVELOPMENT NEEDS

Both Washington National and Washington Dulles International Airports require significant capital development during the next 5 years. National's outmoded facilities are in need of major improvements to upgrade the level of service provided to travelers. At Dulles, facilities need to be expanded to keep pace with the rapid rate of growth now occurring at that airport.

At Washington National Airport, redevelopment options range from $110 million to $280 million. The $110 million redevelopment would provide a number of significant improvements, but still leave a lot undone. For $280 million, National could be redeveloped into a first-class airport.

In deciding on the level of funding for redevelopment at National Airport, considerations will include the funding demands of the concurrent expansion program at Dulles, the impact that redevelopment will have on the fees and charges at the airports, and the support/opposition from the airlines and the surrounding communities to the various levels of redevelopment efforts.

We have attached estimates broken into two major categories of redevelopment plans for National Airport, i.e., a minimum service level and a conventional service level. These estimates provide a general idea of where the redevelopment funds would be spent at each of these service levels. In the minimum service level plan, emphasis would be placed on terminal improvements, structural parking, and roadway improvements. The conventional service level development plan would provide more extensive terminal redevelopment, a substantially better road system, more extensive airfield improvements, and a number of other building and landside improvements.

At Washington Dulles International Airport, we estimate that $420 million will be needed in the next 5 years for new development. Utilization of Dulles has increased rapidly during the past 4 years, with passenger levels up 12 percent in 1982, 16 percent in 1983, 18 percent in 1984, and a phenomenal 47 percent in 1985. First priority needs to be placed on expanding facilities at Dulles to support a continuation of current positive growth trends.

Attached are estimates of the major new development needs identified in the recent update of the Dulles Master Plan. The top priority of this development plan is to build two 24-gate midfield terminals with an underground people-mover connecting the two terminals with the main terminal. Other new development includes expanding the main terminal, acquiring land for a fifth runway, constructing additional parking facilities, expanding aprons and taxiways, and improving roads.

In addition to the above capital development needs, the two airports in combination will require an additional $10 to $15 million per year for ongoing repair and rehabilitation work.

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WASHINGTON NATIONAL AIRPORT - FACILITIES MODERNIZATION

A master planning study is underway to develop guidelines for a modernization program for Washington National Airport. The master planning study discusses both a "Minimum Service Level" concept that addresses only the most urgent needs of the airport to provide an increased level of service over that currently available, and a "Conventional Service Level" concept which would provide a level of service comparable with other major airports.

The "Minimum Service Level" concept focuses on the major deficiencies at the airport involving such items as passenger access between the terminal facilities and the METRO station, ground access circulation, terminal space utilization, and public parking.

Major developments proposed under the "Minimum Service Level" concept include the following:

- Construct a supplemental terminal building in the upper parking area west of the North Terminal to provide ticketing/baggage claim service for the North Terminal, which would be renovated to provide all other required services.

- Provide enclosed passenger access to connect the METRO station, the new terminal facility, and the existing North Terminal.

- Modify the interior of the Main Terminal building to improve passenger circulation and enhance passenger conveniences.

- Reconfigure the internal circulation roadways to improve airport access, provide more distances for "decision making" by motorists, and provide grade separation at intersections.

- Remove Hangars 1 and 2, located immediately south of the Main Terminal, to provide space for queuing and storing taxicabs.

- Realign some taxiways, primarily at the north end of the airport, to improve access to and from the two main runways.

- Provide structured public parking facilities to accommodate an additional 750 spaces.

The "Conventional Service Level" concept recommends a modernization program which would provide airport users with a facility offering services considered standard in the industry. The concept, through new development and the reorganization of functional activities, would significantly improve the level of service offered the public. In addition to improvements covered under the "Minimum Service Level" concept, major developments proposed under this concept include the following:

- Replace the North Terminal with a new and enlarged structure which would be connected to the METRO station by underground passages.

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- Provide a new roadway system with multi-level service to the terminals.
- Construct structured public parking facilities with passenger access connections to the terminal buildings.
- Provide further improvements to the Main Terminal.

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WASHINGTON NATIONAL AIRPORT - FACILITIES MODERNIZATION

	Minimum Service Levels	Full Service Levels
Terminal Construction and Alteration	$ 62,000,000	$156,000,000
Parking Facilities	12,000,000	42,000,000
Taxiway/Airfield Improvements	4,000,000	12,000,000
Roadway Improvements	12,000,000	20,000,000
Metro Station and Connectors	1,700,000	9,000,000
Buildings (new or renovated for those displaced by improvements)	10,300,000	17,000,000
Miscellaneous Landside Projects	8,000,000	24,000,000
Totals	$110,000,000	$280,000,000

In addition to the above capital development needs, the two airports in combination will require an additional $10 to $15 million per year for ongoing repair and rehabilitation work.

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WASHINGTON DULLES INTERNATIONAL AIRPORT - NEW DEVELOPMENT

The recent update of the Dulles Master Plan has identified $420 million in developmental requirements for Dulles which will be needed in the next 5 years. The most significant feature of this new development is the "midfield terminal" expansion scheme.

The initial increment of midfield terminal development should be two 24-gate facilities, connected to the main terminal by tunnels with baggage and people-mover capability. The midfield terminal will be located approximately halfway between the main terminal and the current jet apron. The basic elements include a people-mover station near the base of the air traffic control tower, an expanded baggage transfer interface, relocation and addition of site utilities and fueling, aircraft aprons and taxiways, and two 24-gate multi-level terminal buildings, each with a people-mover system to the main terminal.

These midfield terminals will serve the pattern of airline service that has intensified since deregulation. This pattern requires quick aircraft turn-arounds and more efficient interchange of connecting passengers. This aspect of the airline industry is particularly well suited to serve short- and medium-haul markets, the very types of markets which have been the focus of Dulles' very strong growth over the past several years.

The Dulles master plan update has also identified apron and taxiway improvements which will be needed in the next few years to avoid aircraft backups as the number of aircraft using Dulles continues to increase. Included is a widening of the jet service apron to provide bypass capability for larger aircraft, expansion of the cargo apron to increase cargo aircraft parking space, and an increase in the number of bypass and exit taxiways to improve aircraft circulation, eliminate potential bottlenecks, and reduce runway occupancy time.

Significant improvements to the airport road system will also be needed as Dulles automobile traffic continues to increase. Several roads need to be dualized, including Road A which is currently a one-way road that serves the new satellite public parking area.

Other major improvements that will be required in the next few years based on the projected growth of Dulles are extension of the main terminal, acquisition of land for a fifth runway, and additional public parking. The main terminal is to be extended at both ends from the current 600 feet to 920 feet. This will provide more ticket counter space, baggage handling capacity, and passenger hold rooms. Land for the fifth runway is recommended for acquisition while the property is relatively undeveloped, making it available at a reasonable cost. Development of the area surrounding Dulles is emerging dramatically and it cannot be expected that the desired property will remain undeveloped for long. The need for additional public parking is already in evidence, and this will undoubtedly be among the first of the development requirements funded by the new airport authority.

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WASHINGTON DULLES INTERNATIONAL AIRPORT - NEW DEVELOPMENT

Midfield Terminal	
24-Gate Terminal	$ 70,000,000
Underground People Mover System	30,000,000
Midfield Apron	22,000,000
Subtotal	$122,000,000
Second 24-Gate Terminal	70,000,000
Underground People Mover System	27,000,000
Midfield Apron	22,000,000
Subtotal	$119,000,000
Total, Midfield Terminal	$241,000,000
Airfield Facilities	
Widen Jet Service Apron by 150 Feet	$ 14,000,000
Expand Cargo Apron by 40,000 Sq. Yds.	6,800,000
Taxiway W-2 to New Cargo Apron	4,900,000
Bypass Taxiway, North End of Runway 19R	1,400,000
Bypass Taxiway, South End of Runway 1R	1,400,000
Exit Taxiway, Runway 1R to Taxiway E-1	1,400,000
Exit Taxiway, Runway 19R to Taxiway W-1	1,400,000
Total, Airfield Facilities	$ 31,300,000
Airport Roads	
Complete Road A	$ 6,500,000
Dualize East-West Service Road	3,400,000
Dualize North Service Road	400,000
Construct Services Road, East of Runway 1R	2,600,000
Additional Lanes, Sully to East-West Service Road	1,300,000
Construct Southeast Ramp, Sully Road	500,000
Total, Airport Roads	$ 14,700,000

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Main Terminal	
Extend Terminal from 600 Feet to 920 Feet	$ 50,000,000
Expand Baggage Facilities	34,000,000
Enlarge Federal Inspection Services (FIS) Area	14,000,000
Total, Main Terminal	$ 98,000,000
Land Acquisition for Fifth Runway	$ 18,000,000
Construct Parking Facilities (7,000 Spaces)	$ 17,000,000
Total, Dulles Development Requirements	$420,000,000

In addition to the above captial development needs, the two airports in combination will require an additional $10 to $15 million per year for ongoing repair and rehabilitation work.

AIRPORT REDEVELOPMENT

Mr. **Wolf**. I really want to be able to make the point up here that by transfer or by the leasing of these airports, service will be improved. It will be better. It will be better for every user of that airport, whether it be a Congressman or whether it be a businessman from Buffalo or Toledo or wherever. Secondly, how much would those improvements cost and how much money would be saved by the Federal Government if the airports were transferred?

Mr. **Engen**. Let me provide the overall figures right now and I will as indicated a moment ago, provide all of the figures for the record, so I can be sure that it is exactly right.

For instance, at Washington National the redevelopment options range from $110 million to $280 million to redevelop that airport to the level that is needed. A $110 million would be a minimum service level, and the $280 million would be a conventional service level.

At Washington Dulles International Airport, it is estimated that $420 million would be needed in the next five years for new development.

The top priority for this development plan is to build, as you know, two 24-gate mid-field terminals, and an underground people mover to move the people out there.

So this is the area in which we are talking and in addition to that, there is some $10 to $15 million each year in ongoing rehabilitation and repair work that must go on at each airport.

Mr. **Wolf**. So is it fair to say, that by transferring the airports through the 50-year lease, improvements would be made faster at both of those airports?

Mr. **Engen**. My own feeling is that the sooner this is done, the quicker those airports can begin to improve.

Mr. **Wolf** And lastly, you would save, you would conservatively save up to a half a billion dollars for the Federal Government.

Thank you very much. I have no further questions.

Mr. **Lehman**. Thank you, Mr Wolf.

Mr. Carr?

Mr. **Carr**. Thank you, Mr. Chairman.

Hi there.

Mr. **Engen**. Excuse me, Mr. Carr. Mr. Chairman, General Cassidy wants to see me incident to some ongoing defense and FAA matters: Could I duck out, not to run away from Mr. Carr, but could I leave you for just about 15 minutes?

Mr. **Lehman**. Suppose that you do that and we will proceed with other questions.

That is fine.

Mr. **Carr**. Do not let him go too far because some of my questions involve DOD.

Mr. **Engen**. The talent is here to respond, sir.

ADEQUACY OF FY 1987 BUDGET REQUEST

Mr. **Lehman**. Fine.

In your request for 1987, in February you stated that "FAA has come to the fiscal year 1987 executive budgetary process in relatively good shape". Are you satisfied that your fiscal year 1987 budget request contains sufficient operational, capital equipment, research and development, and airport grant funding to safely and efficiently handle the projected air traffic levels?

If not, what additional funding do you believe is required?

Mr. WEITHONER. Mr. Chairman, I am sure if the Administrator were here, he would say that the budget is sufficient and he supports it as a part of the President's budget.

FUEL PRICE DECLINE

Mr. LEHMAN. The price of fuel has dropped considerably since your budget was developed. Have you noticed any growth in air traffic, particularly general aviation, as result of this price decline?

Mr. McDANIEL. Mr. Chairman, the recent drop in crude oil prices of about 1/3 during the past six months have not found their way into the general aviation fuel price. There has been less than a 1 percent drop in the price of aviation gasoline during this same period. Our budget anticipates some drop in fuel price for general aviation and the forecast is based on that. We do not foresee a change in fuel prices that would cause such activity to rise above that which we have estimated.

Mr. LEHMAN. I wonder why it does not drop aviation fuel as it has done with the pumps on the roadway?

Mr. McDANIEL. There are perhaps several explanations, Mr. Chairman. One is that aviation fuel is a relatively small part of the refined petroleum market with fewer suppliers; therefore the price does not drop quickly when the crude oil price drops. Secondly, most of the aviation fuel is sold through fixed based operators who use fuel price mark-ups in some cases to offset other costs; therefore, they do not always pass their cost savings along to their consumer.

AIR TRAFFIC GROWTH

Mr. LEHMAN. What additional air traffic growth beyond what you have forecasted could you safely and efficiently accommodate in fiscal year 1987 without requring a supplemental?

Mr. LUFFSEY. Of course, the present forecast calls for about a 4 percent increase and right now we are seeing about a 3 percent increase in traffic and we think that with a forecast of 3.2 percent through about 1997, our projected resource requirement will probably accommodate the growth without introducing significant delays. That assumes that traffic is not bunched or bunched in peaks during arrival, departures, and in the normal flow of traffic.

If we continue with the user cooperation that we have had, we do not expect to see any problem with that. But in any event, regardless of what happens in the system, the traffic management system will balance demand with capacity, so that we will continue with a safe system.

Mr. LEHMAN. In other words, even though you do not anticipate over 4 percent and you only have 3 percent now, at what level of passenger increase would you have to come back for a supplemental?

Mr. LUFFSEY. I am not sure that I can give you a direct correlation to the number of passengers on the supplemental requirement.

I would work it on the basis of delays and if delays increase significantly, we would, I do not think that the supplemental is the answer to that question. We would just continue to delay traffic to balance with the capacity of the system.

FY 1987 IMPACT OF GRAMM-RUDMAN-HOLLINGS

Mr. **Lehman**. Your fiscal year 1987 operations request is about $2.8 billion. If Gramm-Rudman-Hollings is determined to be constitutional, or if it is determined that an across-the-board reduction is required to reach a $144 billion deficit target, what would be the impact on your agency, assuming a 5 percent, 10 percent or 15 percent reduction?

Mr. **Engen**. Let me find my place, Mr. Chairman, I apologize.

Mr. Peterson?

Mr. **Lehman**. It is on page 15. What would happen if there were an across-the-board Gramm-Rudman-Hollings reduction?

Mr. **Peterson**. Mr. Chairman, there is no way that this agency could withstand a very significant reduction in its fiscal year 1987 budget by the sequestration procedures in Gramm-Rudman-Hollings. We have testified to other committees of the Congress on various numbers, and the result would be catastrophic. We are attempting to cope, as the Administrator indicated, in Fiscal Year 1986.

Obviously, the President's budget proposal contained for FAA is part of an overall budget that meets the objectives of the Gramm-Rudman-Hollings legislation. We would hope that it would not be reduced.

Mr. **Engen**. Let me give you a couple of examples, Mr. Chairman. For example, all air traffic control facilities would be put on a part-time basis and at least 2,500 air traffic controllers and flight service station specialists might have to be fired, with such a cut.

Mr. **Lehman**. Admiral, we would like to know for the record, as it says here, the impact of 5 percent, 10 percent, or 15 percent reductions. Can you give us some scenarios for the record, as to what would happen under those kind of conditions?

Mr. **Engen**. You would like it for 5, 10 and 15?

Mr. **Lehman**. Yes.

Mr. **Engen**. Fine.

[The information follows:]

IMPACT STATEMENT FOR VARIOUS LEVELS OF REDUCTIONS TO FAA'S FY 1987 BUDGET

The Federal Aviation Administration (FAA) has little flexibility on how to take large dollar reductions since 73 percent of the Operations appropriation funds are used to pay employees, and 80 percent of those employees are engaged in the operation and maintenance of the National Airspace System (NAS). Of the remaining 27 percent for nonpersonnel costs, there are unavoidable requirements which are essential to the operation of the air traffic control system, such as telecommunications, rents and utilities, and travel related to inspection and maintenance activities that cannot be avoided.

Reductions of 5 percent, 10 percent, and 15 percent translate into dollar reductions to the FY 1987 Operations budget of $140 million, $280 million, and $420 million respectively. To absorb funding reductions of this magnitude, it will be necessary to implement very stringent actions which would result in severe impacts to the airspace system. The following scenarios are illustrative of the actions which would be required to "live" within dollar resources.

$140 Million Reduction

In order to achieve a $140 million reduction:

-- FAA would have to impose major cuts in nonpersonnel programs in support areas such as: (1) contracts - including ADP support for the entire headquarters, the NASA/FAA Near Mid-Air Collision Reporting System, and analytical support for operational functions such as air traffic control; (2) stocks and stores, which includes all replacement and repair parts for all navigational aids and FAA air traffic and airway facilities; (3) technical and nontechnical training; and (4) nonoperational travel.

-- New positions for air traffic controllers and air carrier and general aviation inspectors would not be filled.

-- A personnel freeze, with no backfilling for attrition for either operational or nonoperational staff, would have to be implemented.

-- The opening and operation of new facilities (including the new automated Flight Service Stations) would have to be deferred until fiscal year 1988 or beyond.

-- Approximately one-half of the other-than-full-time permanent employees, many of whom provide air traffic support functions, would be terminated.

-- The remaining reduction would be achieved by furloughing for 13 days the work force, other than those directly involved in air traffic; facilities maintenance; aviation standards inspectors; and security specialists. In the short term, this reduced level of employment could keep pace with workload. Over a longer period, however, the necessary administrative support services (procurement, personnel, accounting, payroll, legal) for the agency would fall behind and begin to impact directly the operation of the NAS. Further, these actions would seriously jeopardize FAA's efforts and progress in the Human Relations program.

$280 Million Reduction

-- All of the savings identified at the $140 million level, including a 13-day furlough for the nonoperational work force, would not generate enough savings to achieve a $280 million reduction. To accommodate a $280 million reduction, an additional 18 days per person for the entire work force would be required. This furlough would include air traffic controllers, maintenance personnel, inspectors and security specialists, and would cause a slowing down of the NAS. System capacity would be reduced. The balance of the other-than-full-time permanent employees also would be terminated.

$420 Million Reduction

-- In addition to the actions and furloughs discussed above, another 18 days of furlough per person for the entire work force would be required to achieve a $480 million reduction. This would total 49 days of furlough for the nonoperational staff and 36 days of furlough for the operational staff. The furlough would equate to approximately one day per week for the entire year for nonoperational employees and almost two days every three weeks for operational employees. At this level, system capacity would be dramatically reduced and the support staff (nonoperational) would no longer be able to keep internal procedures, such as accounting, personnel, and payroll, operating at an acceptable level. The flying public would not be able to choose when to fly, but would have to accommodate to the availability of the services provided by the NAS. A defacto re-regulation of the industry would occur.

Mr. **Carr**. Last year, Admiral, we had an exchange of letters over the projected cut of $300 million and you were kind enough to give me a response to—it was not a percentage bill, it was a 50, 100, 150 and I think 300 million dollar cut. And I do not know how that compares with the percentages but I just might suggest that that letter, which I thought was a very fine letter, maybe could be incorporated in what you respond to the Chairman and maybe update it.

That is now 9 months old and we would like your latest thinking and if you could do it not only for the record, but in the form of a letter to the Subcommittee, with your permission, Bill, a letter to the Chairman of the Committee, so that we might have that as quickly as possible. I think that would be very useful.

EXEMPTION FROM GRAMM-RUDMAN

Mr. **Lehman**. Thank you, Mr. Carr.

I have one other question and then I will yield back to you.

I believe that there has been legislation introduced that would exempt some or all of your programs from Gramm-Rudman-Hollings. Do you believe that the FAA should be exempt from Gramm-Rudman-Hollings or any similar across-the-board reductions?

Mr. **Engen**. Let me say, first of all, Mr. Chairman, that I think any Administrator sitting before you could use more dollars. I think that if everyone got the same amount, we would not have a cut. Each one of us needs to justify in the best way possible those monies that are necessary. I would just like to say to you that Secretary Dole has essentially fenced the air traffic control, the security and the safety inspection, and clearly, those meet the criteria.

But I would say, in the same breath, that airways facilities, the ability to maintain that equipment, is vital as well. And I would come back to my answer earlier this morning where I said the FAA is a whole cloth. You cannot keep on inspectors and have them continue to work without secretaries to type their reports and attorneys to go out and prosecute and get compliance. The FAA is a very, very carefully woven organization designed to function as a whole.

I am not saying that to obfuscate or to generalize but it is very closely woven. You cannot cut one part of the FAA without affecting the other.

Mr. **Lehman**. I know that you cannot furlough your maintenance people without affecting other critical people, such as the air traffic controllers.

Mr. Carr, do you want to yield to Chairman Smith?

Mr. **Carr**. I will yield, thank you, Mr. Chairman.

AIRPORT NON-SMOKING AREAS

Mr. **Smith**. Mr. Chairman, I appreciate being here. I wanted to come again to discuss or to hear whatever answers there are to this safety and health problem in airports that has not been taken care of in the last year, as I thought that they were going to, according to the instructions that you put into the conference report.

It just seems to me that if they cannot take care of it any better than they have, that maybe we ought to put something in the law.

Mr. **Lehman**. I assume you are talking about the smoking areas in the airports that are supposed to be set aside as smoking free.

Mr. **Smith**. Yes. The airlines are finding that they set aside 70 percent of their seats for non-smokers and that is not enough. And in airports there is no space set aside for non-smokers, for all practical purposes. It seems to me that if it is necessary to protect the health and safety of people on an airplane, it also ought to be necessary to protect their health and safety while they are waiting for the airplane. Sometimes they wait longer than they are on the airplane.

Mr. **Engen**. We are encouraging airlines to set aside non-smoking areas, and we have, in fact, at the FAA airports have taken steps to set aside those areas. They are currently there at Washington National today, and we are endeavoring to set out signs at Dulles. They should be out very quickly.

Mr. **Smith**. What you have done at Washington National is put a little square sign on a pedestal up there, over against the rail and most of the time nobody can tell what area is reserved. And it does not amount to anything. You have not done a thing.

Mr. **Engen**. Well, if I can say again, that we have asked our regional offices to write to sponsors of grant obligated airports and we have strongly recommended that they establish non-smoking areas. That is the limit of my authority right there. I support what you are saying. Any commercial service airport sponsor with terminal design work planned or underway is going to be encouraged to put non-smoking areas into new terminal buildings that are being produced.

I am sorry if the signs are too small at Washington National, but we have set aside some points and we will look at them again.

Mr. **Smith**. Well, you have got the same kind of a sign at O'Hare, that is, the identical type of sign. And they do a little better in some of the areas there than they do at Washington National. One of the worst, I am sorry to say, is Des Moines, where cigar and pipe smoke is so thick in the waiting room, which is a smaller waiting room, that there is no way that a person who is not supposed to be exposed to smoke, can avoid it. I have seen people who were sick sitting there with a nurse and they had to breathe that stuff, and I have seen women sitting there with small babies who had no way to protect them. A lot of women do now want to protect their babies, you know.

It seems to me that if FAA cannot do something about safety, and help the people in the airports, I wonder what good you are?

Why have an FAA if you cannot even take care of the health and safety of the people in the airports.

Mr. **Engen**. Well, Health, Education and Welfare has a lot to do with that, sir, and I am not going to duck that. We have established the rules that are adhered to in aircraft and you know, we are indeed interested. I would not play it down. It is a serious thing and some people have very strong views about it. I would not make light of that one bit and we will continue, as I said, to try to get the airports that are spending federal monies to set aside these places and to build those areas into the terminals that are being constructed today.

Mr. SMITH. Some cities have done it, and they just say, all public buildings, and that takes care of it. But it seems to me that something has got to be done. It has gone on long enough now. I really thank you, Mr. Chairman.

Mr. LEHMAN. I just wanted to tell the Chairman of the State, Justice, and Commerce Subcommittee that I fully support his position and that I hope that the other members of our Subcommittee can write the kind of language that will encourage FAA to the fullest extent of their authority to provide these kinds of spaces.

Thank you, Mr. Smith.

We will go and vote and then we will come back.

Mr. CARR. Mr. Chairman, while Mr. Smith is here, I wonder if I might ask one question, because it pertains to his jurisdiction.

And then I will try to be brief.

Mr. LEHMAN. Fine, go ahead.

TRUST FUND CONTRIBUTION TO NOAA

Mr. CARR. Admiral, in this year's request by the National Oceanic and Atmospheric Administration, they came to Chairman Smith's Subcommittee, which I am privileged to serve, and they asked for $47 million out of the Trust Fund for a NEXRAD and that was in addition to, I believe, $37 or $33 million that they wanted out of the Trust Fund for just the normal aviation weather services.

Now, as I read the statute, which I have before me here, and unless I do not have the latest update, the authorization for reimbursement for weather related services for Fiscal Year 1987 is limited to $34.998 million to begin with and if Mr. Caleo has his way, if my other Subcommittee were to give him his way, it would be a total of, I think, $76 million. So I think that there is a question of authorization here.

But more than that, in a question that I posed to Mr. Caleo, he confessed—that is a nice lawyer term—that NEXRAD was not aviation only and yet, he asked our Subcommittee to appropriate 100 percent of NEXRAD development out at the University of Oklahoma out of the Trust Fund.

Now, it seems to me that for our Subcommittee to do so, indeed, for Mr. Caleo to request such to be done, is, in fact, not according to the statute. That the statute is very clear and it says that the Secretary is authorized to reimburse, not upfront, but to reimburse for the cost, the cost of weather reporting service, aviation related weather reporting services. And now, the research and development on NEXRAD may have many important payoffs for aviation safety, no doubt about it, but I would wonder if you would think it appropriate, given the statute, for our other Subcommittee to accede to Mr. Caleo's request?

Mr. ENGEN. I agree that it is going to require legislation to authorize it. Let me answer it kind of the long way, if I can. If you think back into aviation, how we have developed things——

Mr. CARR. Let me interrupt. Can you give a short answer and then I will be back and you can give me the longest answer, but while Chairman Smith is here, I would like a short response.

Mr. ENGEN. Okay.

We have done a lot of things in aviation that have been for the public good—49 percent of what NEXRAD does is going to be aviation weather oriented. I feel comfortable, should there be legislation to authorize this, that there is a sufficient gain from aviation, that in order to get on with it, I would do it. That is a short answer.

Mr. SMITH. 49 percent is the appropriate level, is that what you are saying?

Mr. ENGEN. Yes, clearly that is an evaluative judgment on my part, but 49 percent of the weather will be aviation related.

Mr. CARR. Well, come back and we will argue that.

Thank you, Mr. Chairman.

Mr. LEHMAN. We will now recess to vote.

[Whereupon, a short vote recess was taken.]

Mr. LEHMAN. The Committee will come to order.

Mr. Carr?

Mr. CARR. Thank you, Mr. Chairman.

It appears from our schedule, Admiral, that in about 30 minutes we are going to have a series of votes and I do not know what the Chairman's pleasure is so, as I understand it, you will be back Friday?

Mr. ENGEN. Yes.

BURBANK AIRPORT

Mr. CARR. So I think that in the main, a lot of this I would like to talk to you about then, but I would like to touch a few high points now and maybe return to the NEXRAD thing, because I think that we will be on that for a little bit. I sense that we will.

Let me just say that when you come back, I am going to want to talk to you about the situation at Burbank Airport and maybe you could have your staff ready with some figures on relative growth at LAX and Ontario. And this is not for future line of questioning, but some time later this year, when I get a little bit more information, I am going to want to discuss with you and maybe some appropriate person on your staff, regarding specification for runway construction.

I might briefly indicate to you that I have had some communication with road-builders who are contending that specifications which are put together as a result of lab tests, particularly with regard to compaction, just have a hard time being met in the real world because of what they refer to as "containment". So that is a rather technical discussion. I am not really prepared to deal with it right now or by the time that we meet again on Friday. But it has come to me from a large number of road-builders, runway contractors that there is a problem out there that I would like to discuss with you.

Mr. ENGEN. Can I zero in, Mr. Carr, on Burbank? Do you want to talk about noise, do you want to talk about moving the terminal? Do you want to talk about——

Mr. CARR. It is basically all of those things, because they are interconnected in the view of the people out there.

Mr. ENGEN. Is that Burbank, Michigan?

PONTIAC, MICHIGAN BRITE-SCOPE

Mr. Carr. Speaking of Michigan, how are we doing on the Brite-scope?

[Laughter.]

Mr. Carr I knew that you would probably be able to anticipate that question.

Mr. Pozesky. Mr. Carr, we are exactly where we told you that we would be this time. We have not quite gotten it in yet, but we will have it completed by August. As you well know, your office is working with us to obtain the land at the local community college for installation of the RML. That contract has been out for bid. I believe that it will be awarded, if it has not been already, in a matter of days. We have the Brite-scope in our hands. I have been in the Pontiac Tower and we have the location for the Brite-scope worked out. We really do believe that we will be able to have it in operation in August of this year.

Mr. Carr. That is great.

I might just say that if you have been to the tower recently, you know that there was a mid-air tragedy?

Mr. Pozesky. Yes, sir.

Mr. Carr. A tragic mid-air out there. I am not sure that the Brite-scope would have prevented it, that is——

Mr. Pozesky. I believe, that mid-air happened at an altitude below radar coverage so theoretically, it would not have been seen at that point on the Brite-scope.

Mr. Carr. Even though the mid-air itself may not have been seen on the scope, the flight paths may have been observable at a higher pattern altitude and it is possible some additional information might have been provided, although I understand, in that particular case, both pilots were alerted to the existence of one another and it was a fail to see and be seen situation.

And we are not at all putting the FAA on the line on this one, but it does, in a sense, heighten the community interest in this Brite-scope which has been promised for over a decade and there is a perception in the community mind out there, that Brite-scope is, in part, to help prevent these kinds of things. So, the community's anxieties are pretty high and planes falling out of the sky on houses are the kinds of things they——

Mr. Engen. We want to do anything we can in that respect, but we want to be sure that you know, first of all the Brite-scope is going to be there. We want to be sure that we do the kinds of things that will truly prevent mid-air collisions. Does the RVR system work?

Mr. Carr. The RVR system is up working and everybody is delighted with it. And, indeed, I might give you credit in terms of the installation of that RVR did exactly what we had hoped for it. In addition to providing a greater margin of safety, I am told that there are at least one, possibly several corporate aviation departments, which on the basis of the RVR, in particular, have decided that they may move their corporate aviation operations to Pontiac, Oakland/Pontiac.

And, so, we are very grateful to that and you did a nice speedy job with that RVR. And I might again, congratulate you on your fine staff out there. You cannot get as personally acquainted with all of your tower chiefs and all of that kind of stuff, but I happen to know these fellows and they are doing an outstanding job for the FAA.

Mr. **Engen**. I really appreciate that and I recognize that we are here for business. But let me just tell you how much the people in the system appreciate comments such as that. The attitude between pilots and controllers today is light years different than it has been in the past.

Mr. **Carr**. Well, they like their jobs and they show that every day. One matter at Pontiac, which I believe that I discussed with you briefly last year, it is not an FAA issue. It is a Customs issue but we are endeavoring, as I said last year, to get a designated Customs port of entry for the Pontiac/Oakland Airport and there are, I believe, seven or eight airports in the State of Michigan who have fewer operations. Indeed, some have very infrequent operations which do enjoy that designation. I guess what we are going to be looking for in terms of some information from you, down the road, is some help from your technical staff, in as much, as international planes crossing the international boundary and going to Pontiac/Oakland, typically have to go to Detroit Metro, thereby, increasing their Metro saturation problems and some internal Detroit-area saturation problems and as we try to build a case for the Pontiac/Oakland Airport Customs port of entry designation with our other Subcommittee, Chairman Roybal's Subcommittee, I may be wanting to ask you for some operational data and I hope that your people will be able to supply that.

One other area that I would like to talk about in some detail on Friday, is the FAA/DOD connection. Last year, there was an attempt by well-meaning people to have the Airport and Airway Trust Fund finance the upgrade of the TACAN antennas, that FAA operates.

In as much as TACAN is principally a DOD, I think, almost exclusively a DOD system, I felt that it was inappropriate that DOD only facilities and equipment come out of what is essentially a civilian aviation earmarked fund. I was able to work with acting Chairman Chappell of the DOD Appropriations Subcommittee and he was kind enough to accede to the point and I believe they put some money in the DOD appropriations to give to the FAA, for the upgrade of those antennas.

Now, something that has happened in the way there and I do not——

DOD/FAA RELATIONSHIP

Mr. **Engen**. May I make a couple of comments?

Mr. **Carr**. Yes.

Mr. **Engen**. First of all, I very jealously guard our civil status. I am not and I do not want to bring defense and the FAA closer together other than what we now do in managing airspace in a cooperative way in support of navigational facilities.

For instance, we do fly FAA airplanes to Diego Garcia and we do certify the ILS and the VOR at Diego Garcia.

And we do this in Germany as well for the Army and for the Air Force. It is a very complex thing, the moving of dollars back and forth in facilities. And I would like to do my homework well before Friday.

Mr. **Carr**. I understand and I do want to talk to you about it more and I want to get into this area, not only in this budget go-around but down the road. And it is all done not to, in any way, prejudice DOD and their rather unique needs, or the FAA, supplying and having a good working relationship.

My fear, like a lot of other people, is that over a period of years, and through a lot of comfortable interaction that there may be an unintended, albeit nonetheless rather decisive erosion out of the Trust Fund.

And I just want to, as a representative of some of the people who pay all of this money, I just want to make sure that the Trust Fund money stays for Trust Fund purposes.

Mr. **Engen**. I do too.

Mr. **Carr**. I know you do and in particular, and I am thinking about this NOAA situation, in a time of Gramm-Rudman-Hollings and extreme budgetary stress and the fact that that Trust Fund has not been expended and has a large surplus, it becomes a very attractive target to solve all manner of Gramm-Rudman-Hollings problems that DOD may have or NOAA may have or a variety of other things.

And I just want to assure all of the people who pay into that Trust Fund and do so supporting its use for statutory purposes that we are really adhering to that.

So my questions are not motivated out of any accusatory intent or meanness, it is just that. I really do want to edify myself and provide a record so that we can monitor the situtation.

So, on Friday, I will be talking to you about, in addition to NEXRAD, the FAA/DOD connection and particularly as that affects money and the flow of dollars.

I think that I will probably also have some questions about noise but so that you can start chewing through some more of those questions, Mr. Chairman, I will yield back and wait until Friday.

GAO REPORT ON AIR TRAFFIC CONTROLLER WORKFORCE

Mr. **Lehman**. Thank you, Mr. Carr.

As you know, the GAO recently completed and reported on the results of an extensive study of the air traffic controller work force.

This study was based on an analysis of FAA data on staffing, overtime, and air traffic activity from before the August 1981 strike through September 1985, and a questionnaire survey of some 4,500 radar qualified controllers, 1,000 first-line supervisors, and the managers of the 20 enroute traffic control centers and the 54 busiest terminal facilities in the Continental United States.

The GAO's study revealed several serious problems which centered around: The lack of fully qualified or full performance level (FPL) controllers, a problem that could be exacerbated by more retirements than you have planned on.

The work load pressures stemming from substantial increases in air traffic activity coupled with inadequacies in your program to control aircraft flow into and through the system on a daily basis and the consolidation of air traffic sectors.

The effects of continued high levels of overtime usage at the air route traffic control enroute centers, and deficiencies in the on-the-job training of new controllers.

Aside from these problems the study indicated that controller morale is poor and there are widespread employee-management relations problems. According to the GAO, these findings were corroborated in recent Congressional testimonies by a group of controllers and by officials of the organizations representing FAA's first-line supervisors.

In summary, GAO has concluded that the current situation is sufficiently serious as to warrant restrictions to air traffic now in light of the fact that the improvements to be realized through increased staffing are too far away to deal with the present problems.

What is the view of GAO's conclusion that additional restrictions on traffic are warranted at this time?

RESTRICTIONS ON AIR TRAFFIC

In other words, do you agree with the GAO on their air traffic restrictions at this time?

Mr. ENGEN. Mr. Chairman, no, I do not. I addressed, at some length, before Chairman Oberstar the GAO report, and they have been kind enough to come to me and keep me apprised of their findings beforehand. We have a good dialogue going back and forth.

I would go back to my comments. Rather than meander, I would go back to my comments earlier today and say that, in all candor, the GAO conducts very good opinion polls. I think that they can collate that information, and that we should pay attention to that.

The GAO is not an operator of the system. The GAO has no responsibility other than to respond to you fine gentlemen, and they do that very, very well. In looking at the entire GAO report, and talking to my people at great depth and on a daily basis, I do not feel that there is any valid conclusion for additionally restricting the traffic flow today more than we do.

Now we do this on a daily basis. Mr. Luffsey has a morning briefing, and I am going to ask him to say a few words in just a second, where we literally control the nation's air traffic for the next few hours.

Two years ago when I was before you, this was a strategic matter, and we did it for the next day, or the next twelve to eighteen hours.

We are literally doing it by controlling traffic, now, in the short-term, in a very real way, preventing delays, and making sure that people through en route spacing, or through controlled departures, can feed into the system in a way that they do not take their delays in the air. It is a very viable program.

Rather than meander, Mr. Luffsey, let me have you pick up here.

Mr. LUFFSEY. Yes, sir. I will key on the point that you have made, that we do this on a tactical, daily basis. We start out at 6:30 in the morning, arranging to accommodate whatever the situation is at that time in the system, from about the Mississippi, east. We do this with some synergism, reviewing the weather, the runway conditions, the facility conditions, and the like, throughout the country. At 8:15 every morning, we have a review with the top staff of the air traffic organization, with visitation frequently by the Administrator, the Deputy Administrator, and the Associate Administrator for Development and Logistics, as regards system outages and the like.

Having done that review, at 8:30 in the morning there is another total review of the West Coast situation, so that we can apply appropriate restrictions within the system, as required, to balance demand against capacity for the specific day, and of course as often as necessary throughout the day, there are continuing conversations of what is going on throughout the system with direct monitoring of what is happening in the system.

Mr. **Engen**. Short answer, sir, again, is that we are doing this on a daily basis.

Mr. **Lehman**. It seems as if one of the differences in philosophy, as expressed to me by GAO, is that they figure that the FAA wanted the market to determine when and how the flights left, and they thought that the safety requirements should place the responsibility on FAA, as to determine in advance how and when the flights should leave.

Mr. **Engen**. We have indeed shouldered that responsibility and we do that through flow control today, Mr. Chairman.

Mr. **Lehman**. You are not totally committed to the market as a determinant.

Mr. **Engen**. That is right. In fact three weeks ago I was in Hutchinson, Kansas, and I waited on the ground one hour before I could get my slot to get back here.

CURRENT STAFFING COMPARED WITH PRE-STRIKE LEVELS

Mr. **Lehman**. If one compares your current staffing with your pre-strike levels, it is difficult to conclude that you do not have shortages and the potential for problems at some major facilities.

For example, at your New York center traffic is up 14.1 percent from the pre-strike level, but you have 247 fewer controllers and less than one-half the number of full performance level (FPL) controllers you had prior to the strike.

At Minneapolis, traffic is up 13.8 percent and you have 66 fewer total controllers and about one-half the number of FPL controllers, and at Cleveland traffic is up 11.7 percent with 148 fewer controllers and less than one-half the pre-strike number of FPL controllers.

Similar situations exist at certain terminal facilities as well. At your New York TRACON traffic is up 32.5 percent, but you have 69 fewer controllers than before the strike.

At Newark traffic is up 54.3 percent and you have the same number of controllers, but four fewer FPL controllers. Even if you accept the fact that you were overstaffed prior to the strike, don't these kinds of staffing numbers tend to support the conclusions of the GAO survey?

That would indicate that you have problems at some of these facilities because apparently you do not have the new technology on line, as yet, to substitute for the controllers.

Mr. Luffsey. No, sir. I wish we did have that new technology on line. Let me take this in two parts. First, in terms of staffing standards. We now really have much more realistic staffing standards than our earlier requirements indicated.

We use industrial engineering techniques and operations research techniques. We staff for a moderate flow of traffic because the flow control system itself, the traffic management system, is directed at de-peaking and smoothing the flow.

We have better overall shift scheduling, and of course we have increased the time on position per controller. So, in terms of staffing standards, we have significantly improved.

Now, we have recognized the kinds of things that were reported by the GAO in terms of number of FPLs. We have worked on several programs directed at improving the through-put to become an FPL. We have looked at what we have to get from within the system, where last year, as you know, we reported an imbalance between terminals and the en route facilities. We implemented a program called Cross Option and identified some seven center facilities, wherein we intend an input to those facilities personnel already qualified on radar, and in that process they can train much more rapidly, through a training process which has been changed. We have them check out, in sequence, first, on a manual position, and then a radar position, and subsequently through each of those sectors within a given area.

So we expect an FPL through-put which is much more rapid than we have had in the past. Incidentally, we have been doing what I consider reasonably well, not as good as we would like, but reasonably well over the past several months; we have seen something between fifty and a hundred FPL increase per month over the last several months.

NTSB COMMENTS ON FLOW CONTROL PROGRAM

Mr. Lehman. I have a National Transportation Safety Board comment on the GAO report. I will read it and then ask for your comment.

"The FAA's flow control program measures ATC system capacity in terms of airport acceptance rate. Limited traffic levels are established when specific airport acceptance rates are reduced because of weather, facility outages, construction and other factors. However, the saturation level of ARTCC and TRACON sectors as determined by controller human performance limits is not reflected in present traffic management programs. The FAA must define the traffic level which can be safely handled by each sector controller and include this factor in an automated traffic management system, a program which is dynamic and sufficiently flexible to limit system access or reroute traffic, as necessary, to avoid en route sector, terminal area or airport overload."

Do these reports you get in the morning factor in the human problem that deals with the limitations of the individual air traffic controller?

Mr. **Engen**. I know that Mr. Luffsey can speak to this in great depth, but let me just say in brief that is why we have supervisors and managers at en route centers. These people monitor the traffic load on the individual air traffic controllers.

When an en route sector becomes overloaded, that can be split. We can call in other people. We can have other people come in, or have a supervisor sit down and help at that particular instant.

It is literally dealt with 24 hours a day, although there are just probably two periods a day when it becomes very exquisite, at a period in the morning, and at a period in the afternoon. But that has got to be managed on an individual facility basis.

Mr. **Luffsey**. Yes, sir. I would like to take that even a step below the supervisor, and then come back to the other aspect of the flow control.

It is incumbent upon a controller to in fact stop traffic, not take traffic, if the burden is too heavy for an individual controller.

It is incumbent upon a supervisor, the next level the Administrator mentioned, to observe directly what is happening.

Now I can have Mr. Ryan elaborate further on this and I probably will ask him to do so, but in terms of specific efforts in the flow control activity, I know that just off the top of the head I can think of a couple cases where one center was applying such restrictions around a given area, where training was not to the level that the supervisor and the management were happy with, that we had to go and look to see what we could do from a flow viewpoint nationally to deal with that.

We found out about that situation in some depth, during an evaluation that we did back at the center. I know of another case where we got a report that traffic was being delayed on account of shortage in staffing. So in fact through our flow control system we do monitor the kinds of considerations that were just mentioned; the human factors type consideration. Jack, do you want to elaborate any on that?

Mr. **Ryan**. Yes. I think I would like to say that there has been a great emphasis in traffic management since the strike. We have over 227 traffic management coordinators in the twenty centers and the towers.

We have identified in the en route system some twenty red sectors where we have preferential routes around these sectors in order to lower the traffic workload.

Let me give you an example of traffic management today. Earlier on today, we had restrictions on aircraft in San Francisco, Atlanta, and Philadelphia, and right now, at this very moment, we have restrictions on traffic going to Boston, Kennedy, LaGuardia, Newark, and Teterboro, and that is because of weather in the system. So we are matching demand with the capacity of the system at all times.

CONTROLLER STAFFING GOALS

Mr. **Lehman**. As I understand it, you have indicated that a 14,000 air traffic control work force is sufficient to handle today's traffic, and that your plans to add 1,000 additional people will provide for future traffic growth.

In light of the responses to GAO's questionnaire that current staffing—especially full performance level (FPL) controllers—is already inadequate for current traffic volume, are you still comfortable with the goal of 15,000 controllers by the end of fiscal year 1987?

Mr. LUFFSEY. Yes, sir. We believe that we will have sufficient staffing resources to meet our current needs and projected needs.

Mr. LEHMAN. It is very difficult for us to understand where you are and what your goals are with respect to air traffic controller staffing.

Last April, you testified before the Senate Appropriations Committee that you had attained your goal of 14,306 controllers. Eight months later the Secretary announced plans to add 1,000 controllers over two years.

However, for some reason, the base for this increase had dropped from 14,306 to 14,000 controllers. Congress subsequently directed you to have 14,806 controllers in fiscal year 1986 and in January, your Associate Administrator for Air Traffic reported that you would "meet all hiring targets" for controllers.

One month later, you advised us that your funding, recruitment, and training plans for 1986 are geared to reaching an employment level of 14,480 controllers by September 30, 1986.

This leaves us somewhat confused. First, could you tell us why your announced increase of 1,000 controllers over two years was not added to your previously announced goal of 14,306 controllers that you stated you had already attained?

Mr. LUFFSEY. Well, let's see—starting with the 14,306 base of February of last year, the question that one would pose is how did we lose down to 14,000?

The answer to that is we lost air traffic assistants, because we changed the 1986 goals based on the new staffing standards, and that goal brought us from a total of 1,894 to 1,466 at the end of the year, air traffic assistants, who were within the 14,306 that we started with in February of 1985.

I cannot remember for sure, but I think the quote that was attributed to me relates to our ability to meet their targets, staffing goals, and I think that may have been in "Aviation Daily." I am making that assumption that we are talking about an "Aviation Daily" quote, and the quote would be precisely that we would meet all hiring targets.

That was intended to reflect the target assigned, and I believe if that daily article comes to mind correctly, it had two additional sentences that talked about the Continuing Resolution objective of 14,806 by July, and it talked about the Secretary's goal of 14,480 by the end of the year. So it would be enigmatic to go to the 14,806 by July and back to the 14,480 at the fiscal year end. It was my intent to reflect that we will meet the targets assigned, and that would be the 14,480, as was expressed by the Secretary, I believe.

Mr. LEHMAN. The question addressed the 15,000 controller goal. If you had a goal of 14,306 and then you add the one thousand, why don't you have, instead of the 15,000 goal that you have mentioned, a 15,306 goal?

Mr. LUFFSEY. What the Secretary did was articulate a goal in September, that said, "I want to add a thousand controllers to the controller base that we had at that time," 14,000 controllers. So if you just add a thousand, we get 15,000. She said "I want to do it over two years" at 500 each year. Actually, we were at, I think 13,980, so that brings you to 14,480 for FY-86, and she rounded in the President's budget for 1987 to the 15,000 level.

So we are going to increase by 500 each of two years, essentially; probably a little more than that for 1987 to get to the 15,000 level.

CONTROLLER RETIREMENTS

Mr. **Lehman**. What worries me, though, is that a good portion of those are still in training.

I just wondered if you are going to be able to pump them out of the training school as fast as they are going to retire?

Mr. **Luffsey**. Oh, I am sure the retirement consideration is one that bothers us. Actually we have looked at our ability to project retirements, and we are pretty accurate, within about 10 percent, and I think GAO, in their study, recognized the fact that we had been pretty accurate.

We cannot, at this time, forecast, directly, the result, the Administrator mentioned, of the changes in the retirement system or the changes in the tax laws. They may have an impact on us.

But we have also got the stopgap measure of restricting traffic, if we must, if something untoward were to happen. But our forecast looks like we are going to lose about 490, overall, this year, and we are running right at that rate.

Mr. **Lehman**. You do not have much of a cushion.

Mr. **Luffsey**. That is true.

Mr. **Lehman**. It also appears as if your plans changed between January and February of this year.

In January it was indicated that you had 14,000 controllers and your associate administrator reportedly stated that you would meet your target because the 1,600 trainees would net about 800 controllers after accounting for the washout rate.

In February you advised the committee that your target was 14,480 controllers. Would you explain this apparent inconsistency?

[The information follows:]

There was an initial period during which the goal for the Controller Work Force (CWF) was uncertain due to the changing requirements for Air Traffic Assistants (ATA's). The actual goal of 14,480 for FY-1986 evolved as follows:

1. For FY-1985, the CWF goal was 14,306. That goal was essentially met in February of 1985.

2. The CWF declined over the next seven months, and at the end of September, 1985, stood at 13,998. On September 19, Secretary Dole stated at a news conference, that the FAA would add 1,000 more controllers during FY-1986 and FY-1987.

3. The decline of the CWF between February and September was due to the conscious reduction in Air Traffic Assistants (ATA's) within the Work Force. The staffing levels for ATA's were to be substantially reduced for FY-1986 and the ATA level was allowed to attrite so as to be near the FY-1986 level at the start of the Fiscal Year. The chart that follows will show that, within the CWF goal, the goal for controllers was met and that the reason we were at 13,998 instead of 14,306 was the ATA reduction.

CONTROLLER WORK FORCE ON SEPTEMBER 30, 1985

	Goal	On board
Controllers	11,285	10,386
Developmentals [1]	1,127	2,146
Total controllers	12,412	12,532
Air traffic assistants	1,894	1,466
Total CWF	14,306	13,998

[1] Pipeline developmentals GS-5/7/9

Using the chart, it can be seen that the shortfall in the CWF was only due to the ATA staffing levels, not the levels of controllers. Since all of the controllers that the staffing standard called for in FY-1985 were already employed by FAA, under the Secretary's commitment, the additional controllers would be added to that CWF level.

4. The FAA made plans to add 40 controllers per month during FY-1986 and the balance of the 1,000 during FY-1987. The controllers to be added during FY-1986 were to be added to the controller workforce of 13,998 to give a total workforce goal of 14,480.
5. Congress, in the Conference Report accompanying the 1986 Appropriations Act, added the FY-1986 controller increase to the original workforce goal of 14,306 to come up with the 14,806 number.
6. The intent of the Secretary and the FAA with the additional controllers was to add to the current on board CWF to bring the total goal to 14,480. Hiring new controllers is one way to increase the CWF. Another way is to shift qualified personnel from staff and supervisory overhead positions back to controlling traffic. Both methods will be employed.
7. FY-1986 funding provides for 14,480 controllers. With additional funding, we could adjust our goal if necessary, limited only by our capacity to train any new hires.

AIR TRAFFIC ASSISTANTS

Mr. LEHMAN. In February, you also advised the Committee that your decision not to meet your September 30, 1985, air traffic assistant—these are personnel who perform flight data processor and flight data communications functions and are considered as part of the controller work force but do not directly control traffic—goal was a conscious one based on your reassessment of their role.

What is the basis for your revised staffing standard that indicates you need fewer air traffic assistants?

Mr. LUFFSEY. Yes, sir. The basis for that in fact is a revised staffing standard. It changed the goal, and having changed the goal we attrited the air traffic assistants.

There is one other consideration: return on investment in training those people who have quick turnover during the summer months would not have been warranted. Fundamentally though, it is the staffing standard.

STAFFING STANDARD CHANGES

Mr. LEHMAN. What is the basis for this change in your staffing standard?

Mr. LUFFSEY. Of course the staffing standard is generated on the basis of economic considerations, economic analysis, operations research techniques, industrial standards, and the like, which produced a reduction. This says we get more productivity in that function from a controller than we do actually from an ATA.

The level of productivity we get from an air traffic assistant is acceptable at the levels we have set. That provides a return on the investment.

Mr. **Lehman**. You indicated that you had 1,700 air traffic assistants on board at the end of February. How many are assumed in your 1987 goal of 15,000 controllers?

Mr. **Luffsey**. 1,604.

OPERATIONAL CONTROLLERS

Mr. **Lehman**. In your February 28, 1986, letter you also indicated that at the end of fiscal year 1985 you had 10,386 operational controllers, about 900 fewer than your end-of-year goal.

What accounted for this shortage of operational controllers and what is your fiscal year 1987 end-of-year goal with respect to operational controllers?

Mr. **Luffsey**. Well, I believe my statement last year was that we were trying to increase our full performance level controllers by about 500 to 600, and we actually went for the one thousand increase that is needed to meet our increased traffic forecasted. The thousand is specifically for that purpose.

Mr. **Lehman**. Mr. Kingfield points out that this 10,386 was about 900 fewer than your goal, and that is still a shortage of operational controllers. What was the reason for this and what is your fiscal 1987 end-of-year goal with respect to these operational controllers?

Mr. **Luffsey**. We specifically do not really have a separate goal for operational controllers. We have been trying to achieve about 80 percent of our full performance level. We would like to have full performance level controllers at about the 80 percent level and training or development going on with the other 20 percent of our work force.

Again, let me reiterate, when we testified last year, it was our intent to point out an increase in full performance level that we were trying to achieve.

We had 7,891 full performance level controllers when we testified. We said we would go up by about 500 or 600. As of March 31, 1986, we are at 8,770. That is an increase of 879 in the full performance level.

Now controller work force is at 14,028, and that is about 97 percent of the goal of 14,480 that we set.

Mr. **Lehman**. I just wanted to run it by you one more time and refer you to your the letter to Senator Andrews. In that letter you have a table that shows your operational controllers' goal for the end of 1985, at 11,285, and in September you have 10,386. So, you were 900 short of what your end-of-the fiscal year goal was?

[The letter follows:]

US Department
of Transportation
Federal Aviation
Administration

Office of the Administrator

800 Independence Ave., S.W.
Washington, D.C. 20591

FEB 28 1986

The Honorable Mark Andrews
Chairman, Subcommittee on Transportation
Committee on Appropriations
United States Senate
Washington, DC 20510

Dear Mr. Chairman:

The Senate report on the Department of Transportation and Related Agencies Appropriation Bill for 1986 (Senate Report 99-152), requested a full explanation of the 2 percent shortfall in the controller work force employment level which occurred in the second half of fiscal year (FY) 1985. The purpose of this letter is to provide that explanation.

The work force, as we have been defining it, consists of two elements, controllers and air traffic assistants. Air traffic assistants are personnel who are classified in the 2154 series. They perform flight data processor and flight data communications functions. They do not directly control air traffic; but they have been essential in the last few years to free up otherwise qualified personnel to directly control traffic.

Our FY 85 goal of 14,306 consisted of 12,412 GS-2152 controller personnel and 1,894 GS-2154 air traffic assistants. We started the fiscal year with 12,213 controllers, reached 12,469 at the end of January, and never dropped below the required number during the remainder of the year. We ended the year above our GS-2152 goal with 12,532. We started the year with 1,501 air traffic assistants, reached 1,703 in February, and dropped back to 1,466 at the end of the fiscal year. The decision not to meet the air traffic assistant goal was a conscious one based on our reassessment of the role of the air traffic assistant.

Two principal considerations led to our decision to reduce the air traffic assistant complement. First, the turnover rate was so high that return on our training investment became very low. Second, our new staffing standards reduced the required number of air traffic assistants from 1,894 to 1,558. Air traffic assistants are limited in their work assignments, but air traffic controllers are not. As a result, controllers (GS-2152) can perform their own duties and the lesser duties assigned to the assistants. The increase in the number of 2152 controllers and the decrease of 2154 air traffic assistants are positive effects on the productivity capability of our work force.

What is important now, I believe, is that we have enough controllers to meet the current demand for air traffic services. We achieved our 1985 goal but, as the Secretary stated, we will continue to increase the controller work force in 1986 in order to meet the expected increase in traffic. With the continued support of your Committee, I feel certain we will achieve our 1986 goals.

Enclosed is a table reflecting the actual onboard controller work force by category for September 30, 1984; the goal for September 1985; and actual onboard for February 28, 1985, and September 30, 1985.

This information has also been sent to Chairmen Hatfield and Lehman, Senator Chiles, and Representative Coughlin.

Sincerely,

Don

Donald D. Engen
Administrator

Enclosure

AIR TRAFFIC CONTROLLER WORK FORCE
(Centers and Towers)

STAFFING CATEGORIES	9/30/84 ONBOARD EMPLOYMENT	FY-85 END-OF-YEAR GOAL	2/28/85 ONBOARD EMPLOYMENT	9/30/85 ONBOARD EMPLOYMENT
FPL Controllers	7,580	N/A	7,779	8,315
Developmentals (GS-11, 12, 13)	2,712	N/A	2,543	2,071
Operational Controllers	10,292	11,285	10,322	10,386
Developmental Pipeline	1,921	1,127	2,234	2,146
Total Controllers (GS-2152)	12,213	12,412	12,556	12,532
Air Traffic Assistants	1,501	1,894	1,703	1,466
Total Controller Work Force	13,714	14,306	14,259	13,998

Mr. Luffsey. I just have to look at that, and I will rationalize it for the record for you. That is the best I can do.

[The information follows:]

The table in the letter to Senator Andrews has a column labeled "Goal", but the only goal in the column is the 14,306 for the controller work force (CWF). The breakdown of the categories within the CWF are not specific goals, only an approximation of the distribution we would like to have based on the staffing standard.

FULL PERFORMANCE CONTROLLERS

Mr. Lehman. Last year you indicated your full performance level qualified goals were as follows: September 30, 1985—72 percent; September 30, 1986—76 percent; September 30, 1987—80 percent; September 30, 1988—83 percent; September 30, 1989—85 percent.

What was your FPL percentage as of September 30, 1985, what is it now, and how likely are you to meet your future years' goals?

Mr. Luffsey. I think our full performance level has been increasing at a rate of about 50 to a hundred a month, so right now we have increased by 879 since that testimony, and expect to achieve these percentage levels shown here.

Let me submit for the record our expectation on that, based on our current——

Mr. Lehman. What was your percentage as of September 30, 1985? Was it 72 percent?

Mr. Luffsey. I do not have it in percentage terms. FPLs were at 8,374 in October.

Mr. Lehman. 1985?

Mr. Luffsey. 1985.

Mr. Lehman. If you could translate that for the record, into percentages.

[The information follows:]

The FPL percentage as of 30 September 1985 was 66 percent. The percentage as of March 31, 1986 was 70%. We have initiated several new programs to increase the production of FPL controllers. While it is too early to assess the success of these programs, we have every belief that we will catch up with our objectives over the next two or three years.

RETIREMENT FORECASTING

Mr. Lehman. In January it was reported that about 2,800 of your controllers are now eligible to retire and according to the GAO survey approximately 80 percent of these may retire.

What retirement rate are you assuming in your new hire level? That is a lot larger figure than you just gave us.

Mr. Luffsey. We are expecting about 490 to 500 to retire. As the Administrator pointed out, we have about 2,700 eligible at any time, in a continuing flow, eligible to retire. We do not necessarily agree with the conclusion, a priori, that we would expect people to do what they say they will do on retirements.

We have been pretty accurate in our forecasting of retirements for a given year, as I pointed out earlier, within about 10 percent accuracy.

Again projecting 490 to 500 this year; last year we projected 450 retirements. We ended up with 438. If you would like I can submit a table to show the accuracy of our forecast over time, and what actually happened in terms of retirements.

Mr. **Lehman**. Without objection, for the record.
[The information follows:]

RETIREMENTS AND FORECASTS OF AIR TRAFFIC CONTROL SPECIALISTS ASSIGNED TO CENTER AND TERMINAL FACILITIES

Calendar year	Projection/ forecast	Actual retirements
1984	400	401
1985	450	438
1986	490–500	

Notes: This listing does not include disability retirements as these data are used to project retirements based on reaching Civil Service Retirement eligibility and the disability data would skew the data. If disability was included for 1985, the number of retirements would be increased by 42.

2. Retirement forecasts are updated at the end of each calendar year and normed based on past historical rates.

3. At present, as of the end of March 1986, the retirements rate is at the same pace as that of 1985 when we had 438 retire. If this pace continues, we will have overestimated the retirements by some 50 personnel.

CONTINGENCY PLANS

Mr. **Lehman**. Given the volatility of the retirement issue, what contingency plan do you have for those facilities that have large percentages of retirement eligible controller personnel, particularly at the first-line supervisor level?

Mr. **Luffsey**. Well, in terms of contingency thinking, obviously we have got two things we have to consider. One is the operation of the system, and we would certainly consider restricting traffic until we could accommodate a massive set of retirements.

On the other hand, we would have to also consider the rehiring of those people who had retired, if they retired because of the external causes that I talked about, and we would hire them at the offset rate.

Mr. **Lehman**. What is the current status of staffing at the traffic management units at the 74 facilities covered by GAO's study?

[The information follows:]

The attached chart shows the staffing levels for the TMU positions at the 74 facilities.

TMU Staffing for selected facilities, as of March 31, 1986

Centers:	*TMU*
ZAB	10
ZTL	12
ZBW	10
ZAU	5
ZOB	12
ZDV	13
ZFW	9
ZHU	11
ZID	6
ZJX	11
ZKC	10
ZLA	7
ZME	12
ZMA	7
ZMP	9
ZNY	11
ZOA	9
ZLC	8
ZSE	7
ZDC	12

Terminals:	
ATL	0
BWI	0
BOS	2
BUR	0
CLT	0
ORD	0
CLE	0
CMH	0
DFW	0
DAY	0
DEN	0
DTW	0
EDW	0
FLL	0
IAH	0
IND	0
JAX	0
MCI	0
JFK	0
LGA	0
LAS	0
LAX	4
L90	0
LBB	0
MEM	0
MIA	0
MKE	0
MSP	0
EWR	0
MSY	0
N90	4
ORF	0
O90	0
OKC	0
O40	0
MCO	0
PNS	0
PHL	0
PHX	0
P90	0
PIT	0
PDX	0
MCC	0
STL	0
SLC	0
SAT	0
SAN	0
SFO	0
NZJ	0
SEA	0
TPA	0
DCA	0
PBI	0
BDL	0
	0

Source: PMIS March 31, 1986.

ATC MODERNIZATION

Mr. **Lehman**. To what extent will the modernization of the air traffic control system be a significant help in avoiding the need to impose restrictions and what is your best estimate as to when this modernization will be in place and controller work load reduced?

Mr. **Frisbie**. Mr. Chairman, the NAS plan program is intended to increase controller productivity, principally through the use of automation and improved display consoles. Thus the impact on controllers per se will come principally in the form of productivity gains rather than in decreased numbers of controllers.

NAS plan modernization has already had a considerable impact on our work force numbers. For example, personnel savings from the 1980 base at present include over 4,000 air traffic controller flight station specialist positions and over 2,000 field maintenance positions.

Those savings were generated through a long list of projects. We expect additional productivity improvements to occur in the flight service station specialist area and the field maintenance work force as the NAS plan implementation continues.

However, the major productivity improvements in the controller work force will occur with the implementation of the initial sector suites beginning in 1991, and additional productivity improvements will be achieved with the implementation of full advanced automation systems beginning in 1993.

Mr. **Lehman**. The productivity improvement begins when?

Mr. **Frisbie**. What I tried to indicate, Mr. Chairman, is that we are incrementally getting productivity gains all along, but with respect to the controller, the principal productivity gains will occur when the new automation devices are out there in the evolving area control facilities in the early 1990's.

FLOW MANAGEMENT SYSTEM

Mr. **Lehman**. Thank you. What is the status of your program to predict traffic overloads in specific en route sectors? If it is not fully operational, what are you doing to solve the problem?

Mr. **Luffsey**. Mr. Lehman, I am going to ask Jack Ryan to answer this or to elaborate on it. This budget specifically contains some of the requirements to improve our flow management system. Jack.

Mr. **Ryan**. Mr. Chairman, we now have the capability to predict demand at fifteen to twenty of the busiest airports both real-time and from the official airline guide, and if predicted demand is going to exceed capacity then we put control LFD departure times on departing aircraft for those airports.

What we have been striving to do for the last several years is to develop a program called en route sector loading or ELOAD. We can, with data from the OAG, predict sector work load, using static data at this time in the 240 high altitude sectors in the 20 centers. However, we are unable to do that on a real-time basis, as Mr. Luffsey has said, and that is due to computer capacity that we have now in our Atlantic City computers and we are asking for money to replace those computers.

Mr. **Lehman**. What do you believe the explanation is for the fact that, according to the GAO survey, most controllers and supervisors cited inadequate flow control procedures as a reason for workload being too high?

I know that is a contradiction to what you just said. What is the explanation?

Mr. **Ryan**. First of all, the GAO survey was conducted almost a year ago, and since then, many traffic management programs have been instituted.

As I mentioned before, at the 20 centers where we have traffic management units—and I mentioned the number before—227 traffic management coordinators—that is 30 or 40 percent more than we ever had before and these people are solely dedicated to matching capacity with demand.

In addition at our central flow facility in Washington, D.C. where we match nationwide traffic capacity with demand, we doubled the staffing at that facility in the past year.

There are two programs that we have instituted and will be instituting. One is the departure spacing program which we have tested successfully at Los Angeles center and which we are going to implement in the Washington area at Dulles, Baltimore, Washington National and Andrews, somewhere about mid-June. This will efficiently and safely meter departures out of the four airports into the system.

In addition we have the en route spacing program which was mentioned earlier by the administrator, to cope with bottlenecks, and that is in eighteen of the twenty centers.

We think we do a very good job in matching capacity with demand, especially at terminals with the CDT program.

Now, kind of from an eyeball to eyeball sense, not just from national central flow system, we are assessing what is going on out in the facilities. Since last June we have had traffic management conferences where we have brought in people from all of the facilities, the 20 centers, and the level 4 and 5 towers, and exchanged information with them, and they with us, in order to do a better job.

We have sent out what we call tiger teams to assess traffic management programs, and we are talking about problems where, in some cases, the system demand might exceed capacity, and we have done that at 11 terminals.

I think we have a brand new awareness program on the part of facility managers and at national headquarters with regards to exchanging information, and this is all subsequent to the GAO report of last spring.

SECTOR CHANGES

Mr. **Lehman**. What are the staffing implications of adding more sectors to deal with the responses of 70 percent of your first-line supervisors who believe that traffic volume and sector complexity necessitate further changes?

[The information follows:]

Prior to the controller strike the total number of en route sectors was 721. Following the strike a resectorization program was implemented which reduced the number of sectors to 558. Subsequently, the increased traffic flows and changing user requirements have justified an increase to the current level of 645 sectors.

During the period April 1985 to April 1986, requests for 24 additional sectors were processed. The initial request for a sector originates in the facility and is processed through the regions and evaluated at the headquarters level. Twenty-one additional sectors have been approved on a full- or part-time basis. The remaining three requests lacked sufficient justification.

Criteria for sector staffing is not established exclusively on a standard number of controllers per sector. Staffing requirements are based upon traffic volume and complexity, and are established through an individual evaluation of each sector. Additional sector staffing requirements have been met primarily through increased controller productivity and improved system design and management

CONTROLLER OVERTIME

Mr. **Lehman**. In last year's hearing it was indicated that first-line supervisors are not considered as a pool to supplement the controller work force and that they only worked traffic to maintain proficiency.

If that is so, what is the explanation for the responses to the GAO survey that they are spending 36 percent of their time working traffic?

Mr. **Luffsey**. Sir, there is no simple explanation. We do require that they work ten percent of their time for proficiency purposes. We also recognize that proficiency could take you up to about 20 percent of your time and still not be untoward from our viewpoint.

On the other hand we do have too many supervisors working too long as controllers on the boards, and we are trying to deal with that problem, to provide the appropriate staffing, and to avoid the use of overtime even for supervisors to work as controllers. We are working in that direction.

Mr. **Lehman**. Before we go on, I just wanted to ask Mr. Coughlin, before he leaves, if he has any questions?

Mr. **Coughlin**. No, Mr. Chairman.

Mr. **Lehman**. It was indicated last year that a study was in process to determine the optimum level of overtime use relative to staffing resources. The study was to be completed in August 1985. What were the results of the study?

Mr. **Engen**. The study, Mr. Chairman, has not been completed, but in coming to grips with this, we found that there are so many different factors, that we are having a hard time getting a handle on it.

For example, there is a different impact, both economic and physical, depending on whether the overtime is in addition to the controller's daily schedule right there, that day, an extra two hours, or if the controller is called on to work a sixth day of the week.

It is almost—Walt, you might want to chime in here—it is almost on an individual case basis. You cannot come up with one rule across the board that seems to measure this.

Mr. **Luffsey**. It certainly is not the simple exercise that we started it out to be, and it is not purely based on economics. It is clear that there are other variables that we have to deal with, and frankly, I think we are going to have to work awful hard at stabilizing our work force before we can stabilize and get an optimum overtime number.

Mr. **Lehman**. How did you determine that between 600,000 and 700,000 hours (or whatever the study concluded) would be the optimum yearly level of overtime for centers and terminals? Specifically, how were the effects on controllers considered?

[The information follows:]

There is really no optimum number as yet. We will first have to stabilize our work force, then perform the analysis referred to last year. We may then derive an optimum level of overtime. The effect on controllers will be considered if we are able to complete such an analysis.

OVERTIME VERSUS ADDITIONAL CONTROLLERS

Mr. **Lehman**. At what point does it become more economical for you to hire more controllers than to pay controllers overtime?

Or is there such a point you could determine?

Mr. **Engen**. I go back, Mr. Chairman, I guess to my previous life. You know, it is never more economical to hire additional people than it is to pay overtime, but you must do this in order to have fair and equitable working conditions. In manufacturing operations, when I was manufacturing airplanes, I used 6 to 7 percent overtime as a norm, and when it got to ten, I would hire more people.

I find that in air traffic control, people seek overtime. A lot of people depend on that overtime in order to make ends meet.

Other people want to work just the 8 hours. So to come back to the question, when is it more economical to hire than to pay overtime, I guess the answer is it is never more economical, but we want to keep overtime down to a usable amount that the individual will not feel overburdened.

Mr. **Lehman**. It is a personnel factor as well as an economical factor.

Mr. **Engen**. Yes, sir.

Mr. **Lehman**. I was reading in the "Washington Monthly" about a solution for overtime, and cutting back on traffic. It said the real strains on the system happened at the peak hours of 8:00 and 9:00 o'clock in the morning and 4:00 to 6:00 in the afternoon. One solution would be to simply spread out the flights during the day rather than limit the number. Another solution would be to replace roughly three thousand of the present full-time controllers with six thousand part-timers who could handle the peak periods without having to be paid for sitting around in between. Did you read that?

STAFFING ROTATION

Mr. **Engen**. No, sir. I didn't. Interestingly enough, part-timing is a philosophy that I support, and we do have people who do part-time in the system, and we also have some places where there is literally job sharing. One person will work two days out of a week and another person will work three.

Mr. **Lehman**. Job sharing?

Mr. **Engen** Yes, sir.

Mr. **Lehman**. Have you evaluated that at all yet?

Mr. **Engen**. I want to be sure that Mr. Luffsey will agree with me. I have found, in moving throughout the system, both at flight service stations and at en route terminal facilities, we are using part-time today.

Mr. **Luffsey**. That is correct. Not as much to accommodate all of the requests as we possibly could, perhaps, but as much as prudent with the staffing rotations that we have. Incidentally, I might add a point on the staffing rotation and the sensitivity of bringing people to work to match the traffic demand.

In the staffing rotation consideration, in addition to the part-timing consideration it is a very important consideration.

IMPACT OF INCREASED DEVELOPMENTALS ON CENTERS

Mr. **Lehman**. In previous congressional hearings it was indicated that your training academy returned to single shifts in early 1983 because field facilities could not continue absorbing the training output with the academy operating on double shifts.

In January 1985, however, the academy went back to double shifts for center controllers. Given these facts and the acknowledged shortcomings in on-the-job training programs, what has been the effect on those centers that are receiving increased numbers of developmentals? How have these facilities coped with the increased flow of developmentals?

Mr. **Luffsey**. Actually, the impact varies. However, we have been able to accommodate the increased demand, and our facilities are working pretty well with the load that we are placing on them now. But remember, I mentioned earlier, the sensitivity to bringing in a large group, late in the year, into the initial training, and then having to through-put them into our facilities, I have some concern that we could overload a facility very rapidly with too many people to be trained in a short time.

CONTROLLER SCREENING PROCEDURES

Mr. **Lehman**. It has also been indicated that you hope to solve your high washout rate through refined screening procedures. Of course, we have heard this before.

What changes have you made in your screening procedures and what leads you to believe your new procedures will reduce your washout rate?

Mr. **Weithoner**. I think the washout rate is likely to remain indefinitely higher than we would like it to be, because it is a very difficult thing to measure in advance of actually putting a person through the training program how well that person will do.

What we did institute, starting in October, is a new approach to it. It's too early to determine the results. The preliminary results that we have now do indicate that there might be a slight improvement in the retention rate at the Air Traffic Academy.

The principal benefit, though, of our new program should be that we are able to better match the skills of the people who get through the program to the level and type of facility to which they are assigned.

I think we'll be able to help the attrition rate at the facility more than we are likely to be able to help the rate and the loss rate at the Academy.

Mr. **Lehman**. I guess you have to give them some kind of psychological evaluation as well as other kinds of evaluations.

Mr. **Weithoner**. We do have a psychiatric screening. And we have, I think, one of the world's best screening tests. But there are limitations on what you can do with testing as compared with how an individual performs when he actually gets on the job.

CONTROLLER TRAINING

Mr. **Lehman**. Would you update for the record the table on controller training, showing data from April 1, 1984, through March 31, 1986, similar to that included on page 445 of our fiscal year 1985 hearing?

[The information follows:]

ACADEMY TERMINAL, ENROUTE, AND SCREEN CONTROLLER TRAINING STATUS OF STUDENTS FOR

CLASSES WHICH BEGAN AND ENDED BETWEEN 4/1/83 AND 4/25/86

Class		Entered	Passed	Percent	Failed	Percent	Withdrew	Percent
Terminal								
5/2/83	- 8/11/83	145	85	58.6%	55	37.9%	5	3.4%
6/10/83	- 9/22/83	107	77	72.0%	26	24.3%	4	3.7%
7/19/83	- 10/28/83	108	71	65.7%	28	25.9%	9	8.3%
8/26/83	- 12/12/83	73	54	74.0%	14	19.2%	5	6.8%
10/5/83	- 1/23/84	69	48	69.6%	18	26.1%	3	4.3%
11/15/83	- 3/1/84	72	53	73.6%	17	23.6%	2	2.8%
1/5/84	- 4/18/84	71	43	60.6%	23	32.4%	5	7.0%
2/16/84	- 5/29/84	71	32	45.1%	28	39.4%	11	15.5%
3/26/84	- 7/9/84	57	36	63.2%	18	31.6%	3	5.3%
5/3/84	- 8/16/84	66	41	62.1%	19	28.8%	6	9.1%
6/12/84	- 9/25/84	35	25	71.4%	8	22.9%	2	5.7%
7/24/84	- 11/6/84	37	25	67.6%	8	21.6%	4	10.8%
8/31/84	- 12/18/84	19	11	57.9%	7	36.8%	1	5.3%
10/24/84	- 2/8/85	53	39	73.6%	10	18.9%	4	7.5%
12/12/84	- 3/21/85	72	52	72.2%	19	26.4%	1	1.4%
1/16/85	- 4/30/85	74	48	64.9%	20	27.0%	6	8.1%
2/26/85	- 6/10/85	72	49	68.1%	19	26.4%	4	5.6%
4/10/85	- 7/23/85	50	34	68.0%	15	30.0%	1	2.0%
5/28/85	- 9/10/85	52	40	76.9%	11	21.2%	1	1.9%
7/8/85	- 10/21/85	56	34	60.7%	15	26.8%	7	12.5%
8/15/85	- 12/2/85	47	28	59.6%	15	31.9%	4	8.5%
9/27/85	- 1/15/86	50	43	86.0%	6	12.0%	1	2.0%
Subtotal...............		1456	968	66.5%	399	27.4%	89	6.1%
En route								
4/5/83	- 6/24/83	111	40	36.0%	56	50.5%	15	13.5%
5/4/83	- 7/26/83	109	56	51.4%	47	43.1%	6	5.5%
6/2/83	- 8/24/83	111	54	48.6%	49	44.1%	8	7.2%
7/5/83	- 9/23/83	100	49	49.0%	35	35.0%	16	16.0%
8/2/83	- 10/25/83	109	51	46.8%	46	42.2%	12	11.0%
8/31/83	- 11/25/83	107	56	52.3%	41	38.3%	10	9.3%
10/3/83	- 12/28/83	101	39	38.6%	45	44.6%	17	16.8%
11/2/83	- 1/30/84	112	65	58.0%	40	35.7%	7	6.3%
12/5/83	- 2/29/84	110	55	50.0%	28	25.5%	27	24.5%
1/5/84	- 3/29/84	105	51	48.6%	46	43.8%	8	7.6%
2/3/84	- 4/27/84	108	40	37.0%	54	50.0%	14	13.0%
3/7/84	- 5/29/84	101	44	43.6%	44	43.6%	13	12.9%
4/4/84	- 6/27/84	111	49	44.1%	46	41.4%	16	14.4%
5/4/84	- 7/27/84	109	56	51.4%	37	33.9%	16	14.7%
6/4/84	- 8/27/84	106	49	46.2%	42	39.6%	15	14.2%
7/3/84	- 9/26/84	110	68	61.8%	31	28.2%	11	10.0%
8/2/84	- 10/26/84	107	72	67.3%	28	26.2%	7	6.5%
8/30/84	- 11/26/84	102	71	69.6%	21	20.6%	10	9.8%
9/26/84	- 12/21/84	109	71	65.1%	32	29.4%	6	5.5%
11/6/84	- 2/1/85	204	105	51.5%	82	40.2%	17	8.3%
12/7/84	- 3/6/85	202	113	55.9%	68	33.7%	21	10.4%
1/9/85	- 4/3/85	224	128	57.1%	70	31.3%	26	11.6%
2/7/85	- 5/2/85	220	110	50.0%	82	37.3%	28	12.7%
3/11/85	- 6/3/85	146	85	58.2%	48	32.9%	13	8.9%
4/9/85	- 7/2/85	124	62	50.0%	47	37.9%	15	12.1%
5/8/85	- 7/31/85	100	60	60.0%	31	31.0%	9	9.0%
6/7/85	- 8/30/85	107	47	43.9%	46	43.0%	14	13.1%
7/19/85	- 10/11/85	127	65	51.2%	43	33.9%	19	15.0%
8/21/85	- 11/15/85	123	63	51.2%	41	33.3%	19	15.4%
9/24/85	- 12/18/85	120	63	52.5%	47	39.2%	10	8.3%
Subtotal...............		3735	1937	51.9%	1373	36.8%	425	11.4%
Screen								
10/23/85	1/17/86	143	89	62.2%	42	29.4%	12	8.4%
11/22/85	2/19/86	147	89	60.5%	40	27.2%	18	12.2%
12/27/85	3/24/86	153	84	54.9%	49	32.0%	20	13.1%
1/29/86	4/22/86	151	92	60.9%	48	31.8%	11	7.3%
Subtotal...............		594	354	59.6%	179	30.1%	61	10.3%
Total..................		5785	3259		1951		575	

HUMAN RESOURCE MANAGEMENT

Mr. **Lehman**. As you know, some Members of Congress recently endorsed rehiring fired controllers as a way to add experienced personnel to the system, and a bill (H.R. 4003) was introduced to reappoint at least 500 in each of fiscal years 1986 and 1987.

Do you believe this is a feasible option that should be considered?

Mr. **Engen**. Mr. Chairman, I've answered this question many times and in many forums, and I do not.

Mr. **Lehman**. Last December the Marine Engineers Beneficial Association announced plans to organize the air traffic controllers. Do you think there is a need for a new controllers union, and do you plan to resist efforts to organize the controllers on a nationwide basis?

Mr. **Engen**. First of all, by law we are required to remain neutral, and not take one position or another.

When it comes to management, I have been endeavoring to take the Agency into new areas. We have created the Associate Administrator for Human Resource Management, which is Mr. Weithoner. We're trying to change the character of our Agency, and show concerned management style, with a cooperative basis involving the employees in this.

And in doing that, I think you are saying that we can provide a better climate for the work relationship if you don't have a bargainer between you and management.

So in that context I have been working very hard to improve our ability to communicate to the individual air traffic controller and assure him or her that they can get directly to me or Mr. Luffsey or Mr. Weithoner or their manager any time they want to.

And that, I think, is a better way of doing business than if they were to reorganize.

PUBLIC CORPORATION

Mr. **Lehman**. The Air Transport Association has proposed the establishment of a public corporation to operate the air traffic control system. In the past there have been other proposals to transfer this activity to a private corporation.

It has also been reported that an internal FAA report recommends separating the air traffic control function. What is your position on establishing a separate public or private corporation for the operation of the air traffic control system?

Mr. **Engen**. I received this study a week ago this past Monday and we're looking at it, Mr Chairman. I think it's too early for me to comment on it. I think we should look at any new ideas. I always like to approach things with an open mind. I have yet to sit down with the Secretary of Transportation, but she is evaluating it as well, and it's just too early for me to comment at this time.

Mr. **Lehman**. I want to let you know our schedule. First, we'll let Mr. Watkins ask you a few questions, and then we'll probably adjourn for today.

The proposal is to have you come back Friday morning at 10:00 o'clock.

Mr. **Engen**. I'll be here any time you say.

Mr. **Lehman** I'll yield to Mr. Watkins at this point.

SHAWNEE, OKLAHOMA AIRPORT

Mr. WATKINS. Thank you, Mr. Chairman, I really appreciate your allowing me to come by this afternoon. This has been kind of a hectic afternoon I think for all of us.

I appreciate your being here, and I appreciate the subcommittee letting me come and visit because when Secretary Dole was here last year I discussed with her several concerns and problems in my district.

One of those concerns that I would like to think we're making headway on, is the Shawnee, Oklahoma airport project. I think some progress was made yesterday when FAA officials and the FHWA officials met in my office. They met there mainly because of the wisdom of the actions of this subcommittee last year in working out a situation dealing with the airport in Shawnee, Oklahoma.

In Shawnee, we're trying to extend the runway, and it has to be done over a highway. It is a very unique concern and problem that we've worked out with the various communities affected and the various entities there within the communities.

Last year this subcommittee provided $1.35 million that has been directed through UMTA to the Federal Highway Administration. And it's going to be transferred to the FAA as the lead agency to help begin the engineering and design on this project.

We're trying to address this problem properly and we're also trying to save the taxpayers some money. And, again with the subcommittee's help, if everything goes well, we will try to get the other half of that money in this year. The reason for this solution to the problem is if we tried to solve the airport problem by moving it way out from the city, it would cost something like four or five times a greater amount of dollars.

Now, last year, besides appropriating $1.35 million for the project, we put language in the report directing the FAA to give priority consideration to funding the airport portion of the project, which includes an 800-foot extension of the runway over the road that will be depressed.

If all goes well, we've got the initial $1.35 million set aside by transfer from UMTA. I think we've got a working agreement established between the FAA, FHWA, and the city of Shawnee. I think some of your people were there at the meeting in my office yesterday—I don't know who all were there exactly—but I think there were two or three people present representing FAA.

We agreed that FAA would serve as the lead agency for the entire project, and the FAA would continue in its current environmental assessment of extending the runway. They've been willing to work on that. We're working toward a memorandum of understanding between FAA and FHWA. I understand they were supposed to begin on that today to define the roles of the two agencies, and hopefully will have that done in the next week or two. We're working on getting the other phase of the funding for the highway work, the $1.35 million. And I think there's a good cooperative spirit toward providing that funding.

What I'm here to ask is, with all this working together, on the priority consideration designation for FAA funding of the runway extension, can we expect your full support in trying to help us get this small percentage overall of the remainder of this project so we can complete the project?

Mr. **Engen**. I would like to have Mr. Donahue who is in the Associate Administrator for Airports to respond directly. We want to be as reasonable as we can, and I would like nothing better, Congressman Watkins, than to get my hands on UMTA's trust fund and the Federal highway trust fund.

[Laughter.]

Mr. **Watkins**. I'm trying to help you.

[Laughter.]

Mr. **Engen**. I think that offers great opportunities that I haven't even considered before.

Bob, could you respond?

Mr. **Donahue**. Yes, sir.

Congressman, I understand that you did meet with Mr. Bourbeau, the city manager of Shawnee with a couple of our people.

There was a need for an additional $850,000 in addition to the UMTA transfer that you have effected, and then you would need about $600,000 for the runway extension. And if the roadway funds are available to you, for the depressing of that roadway, certainly we will look very favorably upon the $600,000 for the extension of the runway.

Mr. **Watkins**. I appreciate that very much, and I think with the Chairman's hearing this, and also the Ranking Minority Member here, if we can just get this last phase of funding maybe we can have that behind us, and if FAA is willing to provide their small percentage of funding for this project, we can get this project finished.

So when you say favorable, that means under priority consideration you feel like if we met our phase of it you all could meet that $600,000?

Mr. **Donahue**. Well, I wouldn't want to commit the $600,000. Of course, we'd have to look at, see how the regional office has prioritized that runway extension.

You'll appreciate, of course, that our 1986 funds are pretty well allocated at this time. But let me put the caveat in that based on the priority that project is assigned, we will certainly look on it very favorably.

Mr. **Watkins**. Well, as we discussed yesterday, there's a great deal of money being saved on construction contracts now in Oklahoma. Everyone's needing work down in that part of the country, so the bids are coming in pretty low, and, you know, I don't foresee us needing that $600,000 until after October of 1986.

Now, don't let the committee hear me say that, because I'm always needing money as quick as we can get it, but I don't foresee any need for it until after October 1st, because of the design, engineering and all that other work that must be completed prior to construction.

I understand that in the region it does have a high priority. And we've also tried to express that. I think this is one of the few in that region that's got this priority consideration language, if that means anything at all.

Mr. **Donahue**. We carefully consider all projects identified by Congress for priority consideration.

Mr. **Watkins**. Very good. I think with that discussion, I feel you're wanting to move favorably with it. And, Mr. Chairman, with your and Mr. Coughlin's help getting that last part of that funding from the UMTA appropriations this year, and maybe if FAA would put theirs in, we'd have that all behind us.

I want to thank the Chairman and my friend from Pennsylvania, because you all are so considerate in letting me come down here and talk about my problems and my concerns, and I thank you, Mr. Engen, for your willingness to what I consider your commitment to try to help us get this job done.

Mr. **Engen**. Thank you, Congressman. We're interested in airports throughout the nation, and we'll do everything we can.

Mr. **Lehman**. They don't have any passenger railroads in your state, so you have to have airports, don't you?

Mr. **Watkins**. That's right.

Mr. **Lehman**. I think that's one of the few states that Amtrak doesn't operate.

Mr. **Watkins**. We don't have Amtrak. We've got a lot of out-migration right now. We'd like to be able to build our economic conditions, and this is a very key airport to help us on our economic development efforts. We've got double digit unemployment in that Southeast region. This could be a very important transportation facility.

Mr. **Lehman**. Thank you for being with us, Mr. Watkins. Before we adjourn for the day, let's make the meeting time for Friday 10:00 o'clock. I'm not sure if we started at 9:30 we could finish that day, so we will have to come back Monday, with or without the Admiral. What would be a good time Monday to continue?

Mr. **Engen**. I'll be here. You name the time.

Mr. **Lehman**. I'll let the staff work with you and see what is best. Which would you prefer, the morning or the afternoon?

Mr. **Engen**. Morning. Sooner is better than later.

Mr. **Lehman**. We'll decide on Friday when we want to start on Monday.

Mr. **Engen**. Yes, sir.

QUESTIONS SUBMITTED FOR THE RECORD

Mr. **Lehman**. Mr. Coughlin and Mr. Mrazek had a few questions which we'll submit to you for the record.

AVIATION FATALITIES

Mr. **Coughlin**. 1985 was the deadliest year in aviation history, with 1,430 deaths around the world. This is nearly nine times as many as in 1984. Why was 1985 so bad?

[The information follows:]

While 1985 has been characterized as the worst year in aviation history for both the United States and internationally, the U.S. total system accident rate per 100,000 flight hours and fatal accident rate both have continued their steady decline.

The International Civil Aviation Organization (ICAO), reported 16 scheduled commercial aircraft accidents worldwide resulting in 1,430 fatalities. U.S. scheduled air carriers operating under Federal Aviation Regulations (FAR) Part 121 had four fatal accidents in 1985 resulting in 197 fatalities, the second lowest total accident rate in the last 10 years. Commuter air carriers (with about 2.4 million flights in

1985) experienced their best year ever in terms of the total accident rate, with 1.06 accidents per 100,000 flight hours. For on-demand air taxis, the accident and fatality rate remained basically unchanged from previous years. However, nonscheduled Part 121 operators experienced their second highest accident rate since 1977. In summary, 1985 commercial aviation accident and fatal accident rates overall remained substantially below the rates prior to deregulation (1978).

AIR TRAVEL SAFETY

Mr. COUGHLIN. In addition to record fines, people feel that air travel safety is becoming strained because: (1) the gulf between the growing air traffic and the people who supervise safety is widening, despite planned staff increases; and (2) a long standing camaraderie between FAA and the industry which assigns each airline regular on-site inspectors who identify with "their" airline and are sometimes hired away by the airline they supervised. Are these true?

[The information follows:]

The positive correlation between air travel safety and Federal Aviation Administration (FAA) inspection is dependent on adequate inspector staffing. The ratio between inspector staffing and growing air traffic is beginning to stabilize. Since 1984, air carrier inspector staffing has increased at approximately the same rate as industry expansion. Additionally, in October 1985, new program guidelines were implemented to ensure that inspector resources are used optimally. FAA is currently working on a staffing standards revision to ensure that inspector personnel requirements accurately reflect changes in the aviation industry environment.

While it is true that occasionally inspectors are hired by the airlines which they supervised, this practice has not had a significant impact on staffing levels nor has it affected inspection objectivity. To ensure that a high level of objectivity is maintained, FAA is institutionalizing a national inspection program which systematically schedules indepth inspections of air carriers to be accomplished by inspection teams from district offices other than the certificate holding office.

PROMOTING AND SUPERVISING AVIATION

Mr. COUGHLIN. In establishing the Federal Aviation Administration, Congress gave it the statutory mandate both to "promote" aviation and to "supervise" it. Is it possible to do both things effectively at the same time?

[The information follows:]

There is no conflict between FAA's promotion of aviation and its mandate to ensure a safe and efficient National Airway System. The FAA has determined the best promotion of aviation is to encourage and develop standards and practices that result in a safe system. Therefore, only a limited amount of resources have been directed toward promotion of aviation. These resources are primarily involved in the Aviation Education Program which is administered by staff members in the FAA Office of Public Affairs.

MILITARY COMMUNICATIONS

Mr. COUGHLIN. The FAA found numerous and recurring safety problems in Arrow Air planes months before a December 1985 crash killing 248 United States soldiers and eight crew members. However, these findings had never been reported to the Pentagon.

For what do the regulations call?

Have they been changed as a result of this tragedy?

Are they being followed?

[The information follows:]

There has been a substantial improvement in the communications and exchange of information between the Federal Aviation Administration (FAA) and the Department of Defense (DOD) since the Arrow accident. These changes resulted from an executive level review of existing policy involving DOD, Department of Transportation (DOT) and FAA. As a result of this effort, a report was recently issued entitled "Passenger Airlift Policies and Procedures Review." This report outlines actions to be taken by DOT and FAA.

Some specific actions are: (1) Military Airlift Command (MAC) survey team pilots have been given access to air carrier cockpits on military charter flights; (2) DOD personnel are accompanying FAA inspectors on special inspections, attending outbriefings of these inspections, and are being provided a copy of all special inspection reports; (3) a DOD liaison position has been established at FAA headquarters in Washington; and (4) DOD and FAA documents related to the exchange of information are being revised.

There has been extremely close coordination between the FAA and DOD on safety matters of mutual interest, and information is now exchanged on a daily basis.

VALUE OF SECURITY

Mr. **Coughlin**. The threat of terrorism is probably the number one concern of the airline industry. 20 hijackings and 14 other cases of sabotage took place aboard commercial airliners around the world last year. The airline industry spends about $220 million a year on security. From FAA's point of view, what are they getting for their money?

Is it enough?

[The information follows:]

The airlines spend money to assure their operations are in compliance with FAA mandated security requirements. The traveling public is fully aware, in general terms, that FAA does require certain security measures and fully expects the airlines to meet, if not exceed, these measures.

Aside from meeting FAA requirements and meeting public demands, the money in fact buys effective security. The record fully substantiates that as a result of the adoption of aviation security measures such as passenger screening, there has been a marked reduction in hijackings. Of the 20 hijackings cited in the question, only 4 involve U.S. carriers and only 1 of these was successful. There is no evidence available to show that security measures have reduced aircraft sabotage as there are so few incidents, but the passenger and baggage screening systems used by the U.S. carriers have found 42 explosives or incendiary devices since January 1980, including 12 in 1985. The security systems must be improved regularly. The relatively simple measures adopted in the 1970's were extremely effective at that time, but as hijackers and saboteurs develop more sophisticated techniques, more sophisticated and expensive security countermeasures will be needed.

AGE 60 RULE

Mr. **Mrazek**. The Federal Air Surgeon has stated that the FAA's Age 60 Rule is not a medical rule. At the same time, the FAA has denied granting exemptions from the rule on medical grounds because the agency alleges that they are not aware of any tests which could be used to evaluate individual pilots.

In view of the recently released AMA report, isn't it possible to evaluate individual pilots?

[The information follows:]

Although it is possible to evaluate individuals medically, the FAA is unaware of the existence of testing methodologies that with satisfactory assurance, can identify deterioration in health or performance that occurs relative to aging. In this respect the AMA report contains numerous recommendations regarding medical testing generally, but it does not contain recommendations concerning testing for disease processes and functional deficiences in respect to aging.

Mr. **Mrazek**. Which groups or which persons oppose changing the rule or granting exemption from the rule?

[The information follows:]

Although it is well known that the "Aging 60" rule has both proponents and opponents, the FAA is not in a position to identify and thereby speak on behalf of groups or persons who oppose the rule or who oppose granting exemptions from the rule.

Mr. **Mrazek**. Why not keep the Age 60 Rule and grant exemption to those pilots who can prove their physical fitness and competence using tests developed by Dr. Williams' panel or tests described in the AMA report?

[The information follows:]

The FAA has for many years granted certification to airmen who do not meet the established medical standards, based on medical evidence of recovery and stability. In contrast to insidious disease processes and functional deficiencies which may affect aging pilots, however, we are dealing with known medical conditions and are in a much better position to assess risk and apply available testing technology.

Even though the AMA report contains numerous recommendations regarding the medical testing of airmen generally, it does not contain specific recommendations concerning testing that may be used to identify disease processes and functional deficiencies relative to aging. As a consequence, it is unlikely that the recommendations contained in the report can be used to grant exemptions from the "Age 60" rule.

Dr. Williams' proposed testing methodology was developed following a hearing on the "Age 60" rule that was conducted by the House Select Committee on Aging last October. Although the committee indicated that it would provide the protocol to the FAA for our review, it has not yet done so. As a result, we have no basis for commenting on Dr. Williams' proposed methodology.

Mr. **Lehman**. The Subcommittee will be adjourned.

FRIDAY, APRIL 18, 1986.

FIELD MAINTENANCE WORKFORCE

Mr. **LEHMAN**. The subcommittee will come to order.

In accordance with the rules of the House of Representatives and the Committee on Appropriations, without objection, we will permit television and broadcasting coverage of today's hearing.

This morning we will resume hearing testimony on the fiscal year 1987 budget request for the Federal Aviation Administration. We will begin this morning with questions on technician staffing. The first question is on the field maintenance work force.

There have been reports of shortages of the technicians who repair and maintain air traffic control equipment. Just a few weeks ago it was reported that a March 20 FAA document stated technician "staffing has diminished to a critical level" and "continued maintenance [of the airspace system equipment] at current mandated level and quality will soon be impossible."

What is the situation with respect to your airway facilities maintenance staff—do you have a problem in this area?

Admiral **ENGEN**. Mr. Chairman, that report which was made, referred to in the press was an internal document used to examine issues in the FAA. I would like to talk a little bit about our concern in this area. Before I do so, I would like to point out that we have recently replaced a considerable amount of older, less capable and very labor intensive equipment.

We are continuing to do this as we move along in implementing the National Airspace System Plan. We are achieving productivity gains through various reorganization efforts of our field activities to allow us to better manage our technical systems with less people.

It does remain that the monitoring of the manning level is of concern to us, and it is one of the management initiatives that we have ongoing in the FAA.

I would like to ask Mr. Frisbie to respond further, please.

Mr. **FRISBIE**. Thank you, Mr. Chairman.

As the Administrator has indicated, we have done a number of things to reduce the workload for the maintenance people and will continue to do so as we have testified over the last few years.

One of the effects of this planned reduction, which has been accomplished through attrition, is that the age of our work force has gradually increased. They are typically 48 or 49 years of age, and are among the oldest of the work forces within the FAA. That puts us in a position where we have some vulnerability to retirement, and prospectively have a growing problem if we don't refresh that work force.

MAINTENANCE TECHNICIANS

Mr. **LEHMAN**. Last December it was reported that too few technicians were available at Bradley Airport, Windsor Locks, Connecticut to make timely repairs to malfunctioning systems for landing airplanes in bad weather. Other reports indicate technicians sometimes sign off on routine maintenance not performed. Are these reports accurate and how do you verify that maintenance work is actually being performed?

Mr. **Frisbie**. Mr. Chairman, with respect to the Windsor Locks situation, which occurred during part of 1985, when equipment problems occurred and a technician was not available on the site, we had a technician called back to make the necessary repair work and to restore those systems to normal. The technician responded as soon as possible and in most cases the necessary repairs were accomplished in a prompt manner.

We have since filled a vacant position there and the maintenance coverage at the airport has been extended from eight hours a day to sixteen hours a day.

With regard to the main thrust of your question, the issue of maintenance technicians signing off on routine maintenance not performed, in each case we have looked into the situation and we haven't found a basis for such an allegation. We will not permit such actions. We will continue to ensure compliance with our procedures.

Our first line supervisors are required to review maintaince accomplishments on a monthly basis. We have reviewed compliance and comprehensive management evaluations have been conducted by regional and national evaluation teams. If there are people who think they have evidence of this, we would appreciate that evidence being given to the IG at the Department of Transportation so it could be pursued to its final conclusion.

Mr. **Lehman**. Perhaps we will have the IG look at this to be sure that you have this hazardous situation, if it is a hazardous situation, fully covered.

Admiral **Engen**. I assure you it is not hazardous, but we certainly should look at it.

REDUCTIONS IN TECHNICIAN STAFF

Mr. **Lehman**. It was indicated that in 1979 you had 11,000 technicians and today you have about 6,500 servicing more facilities and systems than you had in 1979. Over this time period we have been assured that these reductions could be accomplished without any negative effect on the system.

For example, in our fiscal year 1980 hearings, we were told, "We are finding that we are able to reduce certain maintenance tasks without adverse effect on the performance of the facility."

The next year we were told, "This reduction is possible . . . [because of] the continuation of a program initiated some six years ago by the agency, and supported by this committee that permitted us to procure new solid-state hardware."

Similar testimony was provided in our fiscal year 1983 and fiscal year 1984 hearings and two years ago we were told, "We recognize and, in fact, are committed as part of the NAS plan for a long-term decrease in our maintenance staff."

Your fiscal year 1987 budget proposes to reduce your field maintenance staff by 359 positions and indicates that substantial additional reductions are planned for subsequent years. It is very difficult for us to reconcile your agency's past testimony and your fiscal year 1987 budget proposal with the recently reported statement of your acting associate administrator that he has recommended to you that more technicians be hired.

Can you help us understand what is happening and tell us whether you intend to increase or decrease your technician staff?

Admiral **Engen**. Let me start, Mr. Chairman, and I will turn it over to Mr. Frisbie. We have some question about the relative figures cited for the numbers of technicians there, but we can sort that out.

The important point is that we are engaging in a long-term staffing reduction plan in the airways facility work force. Our purpose is to manage and implement that reduction in the best manner while being consistent with the implementation of the national airspace system plan.

We accommodated our workload reductions through attrition while slowing down recruitment activities. The result is that the present work force is older, with a larger percentage of our people approaching retirement. Overall, the rate of attrition is outpacing the productivity gains.

In essence, we are saying that there has been an overall decrease in the numbers of facilities maintenance people. That rate of decrease has exceeded our desires, and we are working now to get back to the planned rate of reduction in our force. That is going to take us several years, but in doing so we will manage so that we do not allow the reduction of facilities maintenance people to allow equipment performance to reach a critical level.

Mr. Frisbie?

Mr. **Frisbie**. I think the Administrator has explained that very well, and as he has said we have an overall plan to reduce maintenance people.

My numbers would indicate from a 1980 base of 11,602 in field maintenance we are aiming for a target of 7,735 in the year 2000. That is still our plan and as we introduce these labor saving devices and productivity improvements we will continue with it.

Our concern is that our attrition through age is getting ahead of that planned decrease so it is a question of closing that gap, and that is what we plan to do through recruitment of younger personnel as those opportunities become available to us.

Mr. **Lehman**. The article which we referred to indicates that you have recommended that more technicians be hired.

Admiral **Engen**. Again you are referring to that same article.

TECHNICIAN ATTRITION

Mr. **Lehman**. Are you hiring more technicians at a younger age to take care of the attrition of the older technicians that apparently are beginning to retire?

Admiral **Engen**. That is right, sir. Again, that article you cite was referring to an internal staff paper, which is factual. It addresses what we are working at this year and in 1987 to reverse that trend and to start us back in the right direction to get back on that planned reduction curve.

Mr. **Lehman**. I am still confused because the news article says that you should be hiring more people, but your budget request indicates that you need less total technicians.

I am trying to find out whether you need more total technicians or whether your budget request really means what it says and that you do plan a net total reduction.

Admiral **Engen**. I think we are talking about a news article which I don't have before me; however, that newspaper person is not responsible for the system and is reporting something as he sees it. What I am trying to say to you is that we are managing this reduction in a way that we can accommodate to the dollars that we have. My goal is to manage the excess reduction and level out the reduction so that we get back on our planned curve.

I don't know if that makes sense to you or not.

Mr. **Lehman**. I am just trying to get the facts of the case. I think I am hearing one thing from Mr. Frisbie and maybe a contradiction from you, Admiral——

Admiral **Engen**. I hope not.

Mr. **Lehman**. I am just trying to find out. Mr. Frisbie is saying that he recommends more technicians, and your budget request is for less technicians. How do you reconcile those two positions, that is all?

Admiral **Engen**. Rather than be the intermediary, I will let Mr. Frisbie explain.

Mr. **Lehman**. He can plead the Fifth.

Mr. **Frisbie**. We have committed to do this job with the people that are requested in the President's budget. Our principal problem is a prospective one in that we are concerned as the age of these people increases that they, at their option, can retire. Should they retire, they could leave us with a very acute situation. We have that problem in a number of places, and most notably I believe having to do with the maintenance of long-range radars. However, the Administrator has given his Regional Directors the freedom to go out and hire technicians in any case where the regional director feels there is a critical shortage. That degree of freedom does exist and is being exercised by those regional directors.

Would I like it better if we had more technicians? I think I would, because that would be more like the way we are used to doing business. The fact is though that the old way of doing business is rapidly changing since we are putting in much more reliable devices.

Equipment status reports are now remoted back to central locations which we didn't have before. We have a very robust system, and the spirit of that presentation to the Administrator was to try to arrest the problem that we have with respect to these aging technicians and turn it around over time so that we don't become more vulnerable to their retirement susceptibility.

Mr. **Lehman**. You made a recommendation, according to this news story, to the Administrator. At the time no decision has been made on your recommendation. Has any decision been made on your recommendation as of today?

Admiral **Engen**. Yes, sir, it has. That recommendation was made in a staff meeting, and just as Mr. Frisbie said, the night before last I went out with a message throughout the agency placing a hard freeze on all vacancies with some exceptions. Those exceptions are in traffic management, aviation safety inspectors, civil aviation security specialists and related support groups and maintenance technicians.

ELECTRONIC TECHNICIAN SEPARATIONS

Mr. **Lehman**. Recent testimony by the President of the Professional Airways Systems Specialists indicates that the electronic technician separation rate during the third quarter of 1985 increased by 32 percent over the comparable prior year period. He states that this increased separation rate is reflected in the meantime to restore failed systems and points out that the terminal automated radar service restoration time increased 17 percent when comparing those same two fiscal year quarters.

He also states that the average age of this work force is more than 48 years old and 21 percent will be eligible to retire by the end of 1987 and 34 percent by the end of 1989. Do you believe there is a relationship between increased separations and increases in the time to repair failed systems and does the increased separation rate and large percentage of specialists eligible to retire concern you?

Mr. **Frisbie**. Mr. Chairman, I think I have already indicated that the large percentage of specialists that are eligible to retire is one of our concerns and will continue to be. With respect to the time to repair equipment, it has generally increased. However, much of this increase is traceable to management actions that we have taken to defer the immediate restoration of some equipment. Reducing restoration criteria has allowed us to reduce watch standing at some facilities. Some of the increase is due to travel time, to delays in availability of parts and wait for flight inspection aircraft.

The contribution to that increased time to restore is mainly from management actions that we have taken where we feel we can make prudent economies and increase the effectiveness of the work force that we have on board.

CONTRACT MAINTENANCE

Mr. **Lehman**. Your fiscal year 1987 budget includes a $10 million increase for the initial funding of a pilot test of contractor maintenance at certain facilities. Would you elaborate on what this test will involve, what the total cost will be, and the extent to which you are considering contractor maintenance as an option to hiring additional maintenance personnel?

Mr. **Frisbie**. Mr. Chairman, that is correct. We are planning for what we call a pilot program in the maintenance area that would be limited to approximately 500 positions. Our intention is to determine whether or not the private sector can provide the same degree of service at a lower cost. The stage that we are at, is that a statement of work is being examined within the administration. Our plan is that, if that statement of work is found to be acceptable, we would put it out for bid. The contractor bids would be compared to a government's program estimate to assure that reasonable economies would be achieved if we decide to move ahead with this test.

The test program is not expected to result in the relocation of any maintenance technicians before fiscal year 1988 and since it is a pilot program it only represents a relatively minor part of the total systems maintenance staffing. Our plan is to continue to hire such additional maintenance staff as we need to satisfy attrition on a systemwide basis.

Mr. **LEHMAN**. According to his testimony, your own documents indicate that the contracting out will initially cost you about $17 million more than the 500 technical positions. Is this worth the gamble?

Mr. **FRISBIE**. Is it worth the gamble? That is what we are going to test, Mr. Chairman, and we have built in steps along the way to make sure that it is worth the gamble. As I tried to indicate, there will be a so-called silent bid from the government to make sure that there is good dollar-for-dollar value to come out of this.

We think that proceeding—as I stated through the steps that have been included, is a logical sequence to follow.

PASS COMMENTS

Mr. **LEHMAN**. Do the documents referred to in the PASS testimony exist? If so, would you provide them to the committee?

[The information follows:]

Information on the elements cited by PASS does exist. These were the electronic technician separation rate, the Terminal Automated Radar Service (TARS) restoration time, and demographic profiles of our AF work force. These pieces of information are a portion of data bases that included significantly more than just those three selected pieces. For that reason, the pertinent information in relation to the PASS statement is included below, in lieu of providing the voluminous documentation basis from which they have been extracted.

1. The separation rate of electronic technicians was 3.8 percent of the base for the third quarter of FY 1984. The rate of the third quarter of FY 1985 was 5.0 percent. That is a 31.5 percent increase as PASS stated.

2. The mean time to restore (MTTR) was 1.74 hours for Terminal Automated Radar Service (TARS) for the third quarter FY 1985. For the same FY 1984 quarter, the MTTR was 1.55 hours. This was an increase of 12.3 percent not the 17 percent stated. Further, on a longer term basis, MTTR for unscheduled outages is a downward (desirable) trend from FY 1979 through FY 1985.

3. As of September 30, 1985, the average age of our automation technician work force in ARTCC's was 48.5 years and 47.5 years for the General NAS Sector Offices. Approximately 18 percent of those people will be eligible to retire by the end of FY 1987 and 31 percent by the end of FY 1989.

4. PASS testimony also refers to a DOT/FAA proposal to incur $17 million additional program cost if we implement a pilot maintenance contract. This is a government estimate which is part of the entire project that would be associated with first year startup costs. It would allow for the necessary overlap of FAA and contractor staff, as well as related transition expenses, particularly during the early phases of the contract period.

COMPUTER GENERATION

Mr. **LEHMAN**. Before we move to the inspection program, it seems like what I am hearing is that you have an aging technical maintenance force that is dealing with a generation of computers and other technology that you are phasing out. You are bringing on a new generation of computer technology, and you believe you going to have to hire sort of a matching generation of young technicians to deal with this.

Mr. **FRISBIE**. I think that is generally true, Mr. Chairman, yes.

Admiral **Engen**. These are changing times, Mr. Chairman, and I see this very loyal and dedicated aging work force maturing further, and opting for retirement. The people we bring on are going to have to be trained to install and maintain this new equipment.

Mr. **Lehman**. At this time I would like to yield to the ranking minority member, the gentleman from Pennsylvania, Mr. Coughlin.

FY 1987 BUDGET FOR MAINTENANCE PERSONNEL

Mr. **Coughlin**. Thank you, Mr. Chairman.

Just on this point, can you assure us that the technician staffing reduction that you propose in your 1987 budget will still leave you with adequate personnel to do the job that needs to be done to properly maintain your equipment? I guess that is the bottom line.

Admiral **Engen**. I think the bottom line, Mr. Coughlin, is that we will make that so. I am concerned, and we are dealing on a person-by-person basis. I am dedicated to maintaining that assurance, and I wish to give you the sense that the entire agency is dedicated. This will have no effect on safety. I also must tell you honestly that we have to reverse the trend and that is our management problem and that is what we are going to do.

Mr. **Coughlin**. Thank you, Mr. Chairman.

IMPACT OF DEREGULATION

Mr. **Lehman**. Thank you, Mr. Coughlin.

We will move to airline safety inspection programs.

On Wednesday when we first started these hearings, the very first question touched on the impact deregulation has had on airline safety practices. It is a fact that under deregulation there is tremendous pressure on the airlines to reduce costs and it is also a fact that your safety inspector work force is stretched much thinner than before deregulation.

The previous surveys I mentioned show that over one-half of the pilots responding believe U.S. airlines are emphasizing profits at the expense of safety and 62 percent of the public responding to a Business Week/Harris poll were greatly concerned about poor maintenance.

Obviously, these concerns are shared by some of your personnel as well, since your Associate Administrator for Aviation Standards reportedly advised you in a memorandum last June that "The fabric of safety appears to be developing weak spots, as evidenced by the findings of [internal FAA reports] and the number of air carriers experiencing difficulties within the past couple of years."

What is your assessment of the impact of deregulation? Are the U.S. airlines emphasizing profits at the expense of safety? If not, how do you explain the recent unprecedented $1.5 million and $9.5 million fines levied against American and Eastern Airlines for maintenance violations?

Admiral **Engen**. Mr. Chairman, first of all, I will not countenance less than full compliance with the Federal Aviation Regulations on the part of everybody who flies in the system out there. I have been addressing, as you know, the emotionalism and creativity of press reports, and sometimes it is difficult to deal with this when the facts are that the system is indeed performing well.

At my request in 1984, we examined the need for more inspectors. In 1984 Secretary Dole increased the number of inspectors by some 25 percent. Subsequently we found that there was a need for more. We are indeed increasing the numbers of inspectors at this time as you know. Secretary Dole has approved that figure of 500 additional inspectors over a three-year period.

I think that polls and public opinion are important weather vanes, and I really do pay attention to these. But I don't manage by public opinion, and particularly where I find that opinion is mixed.

It is true that we do have the appearance of a safety problem by our civil penalties. We enforce to gain full compliance, and we are carrying a message to the entire air transport industry. I think they have this message and we expect full compliance.

There are people in the FAA and in industry as well who spend their entire lifetime ensuring that proper maintenance is performed, and that dedication has built aviation safety to what it is today.

Deregulation has changed the traffic flow patterns. Deregulation is requiring that the agency adapt to this. There are more people flying today than ever before and it has created a need for us to adapt and find better ways to inspect. We have done that and we are doing it.

I would like to say that the recent unprecedented fines that you refer to are really individual actions on the agency's part to look at individual carriers. What we have found there didn't happen overnight.

In each case the problems are systemic in a sense. They are being rectified now, and I wish to salute the companies involved in their dedication to make that fix as rapidly as they can.

However, the fact remains that I have established a get-tough policy. I want to be sure that each carrier is measured on his or her ability and that we are very fair in advocating these civil penalties.

Mr. Broderick, do you want to add anything to that?

Mr. Broderick. I would give a very short summary and say that what you see is a measure of an aggressive inspection and enforcement program in the FAA flight standards organization that has recently been revitalized by a clear show of support for that kind of approach by the Secretary and the Administrator.

PENALTY FINES

Mr. Lehman. I just want to mention that most of the public attention seems to be focused on the air traffic controller problems, but my personal concern is with the inspector problem. I think the potential for problems exists in both areas. These fines that you levy are large seven-figure numbers.

What is the process of actually collecting these fines? Does it really happen?

Admiral Engen. Oh, yes, sir, it does. I wish to report to you that we have the full attention of each corporation and once levied, the fines are indeed collected. They are built upon lack of compliance with the Federal Aviation Regulations. I receive a constant complaint that it is more of a bookkeeping exercise, but I maintain that you must have an audit trail to show how you maintain and how you operate your aircraft. We billed the fines based upon the basic $1,000 maximum penalty per occurrence.

When I testified the day before yesterday, I hope I made the point that Secretary Dole is trying to get legislation to increase the civil penalty authority from $1,000 to $10,000. She is trying to enable the agency to deal with the individual who transgressed, and I do not see these fines multiplying by a factor of 10.

Once again, each air carrier is judged specifically upon the issues that apply to him or her, and we try to set a fine that is appropriate to what we see.

Mr. **Lehman**. Is the fine actually collected or is the check in the mail?

Admiral **Engen**. The fine is actually collected, and the FAA sets a date certain by which the check is delivered. It is given to the U.S. Government.

Mr. **Lehman**. Have the ones from American and Eastern been delivered to the Treasury?

Admiral **Engen**. The check from American Airlines was delivered on time as was the check from Western and from Continental. We are negotiating at this time with Eastern Airlines and still working with them.

ADEQUACY OF SAFETY INSPECTORS

Mr. **Lehman**. Admiral, over the years we have been repeatedly assured by your predecessors and other FAA officials that airline maintenance was not a problem and that the number of FAA safety inspectors was adequate to do the job required. I won't take the time during this hearing to read all of these quotes, but I will insert some of them in the record.

These inserts are from the 1979 hearing under Chairman McFall, the 1980 hearing under the chairman of this committee, Mr. Duncan, the 1982 hearing under Chairman Adam Benjamin, and the 1984 hearing under myself as chairman.

[The information referred to follows:]

(Fiscal year 1979 hearing record, p. 682.)

Mr. **McFall**. The trends you indicate on page 85 would seem to indicate an increasing workload in your flight standards activity. Do you feel that the personnel and funds you are requesting will be sufficient to do the job that needs to be done in this area during the upcoming fiscal year?

Mr. **Ferrarese**. Yes, we do.

(Fiscal year 1980 hearing record, p. 408)

Mr. **Duncan**. Has deregulation affected in any way your perception of the safety of carriage on the air carriers? It has, I suppose. This occurred to me the other night sitting at Chicago when there was a hydraulic leak on a connecting flight and we sat there for about an hour or so for them to fix it. And then I was told by a visitor from Oregon the next night that on that same flight he had the identical experience.

Are we utilizing this equipment to such an extent now that we are threatening the capacity of the airlines to maintain them in the interest of safety?

Mr. **Bond**. No, I don't think so at all. As a matter of fact, if you adhere to the view that stronger earnings provide safer aircraft, then they should be even better.

Mr. **Duncan**. But the pressure is there to utilize that equipment to its maximum. It costs a lot of money to have those planes sitting on the ground.

Mr. **Bond**. Well, again we don't think that keeping the airplanes flying in an era of progressive maintenance is a bad thing. There is no reason for us to associate that with the lack of quality maintenance in any way.

Mr. **Duncan**. All right. That is reassuring to know that.

(Fiscal year 1982 hearing record, pgs. 397 and 529)

Mr. **Benjamin**. According to your revised justification, you are proposing a reduction of 273 positions below the January budget for your aviation standards program. This is just one year after this committee was told that you will be tracking the safety record of commuters much more closely. What impact will this proposed reduction have on your ability to monitor this industry?

Mr. **Luffsey**. The peaking in staffing we used in the past, of course, was to take care of our recertification and certification responsibiity and to assure we continue our surveillance and enforcement during that period. That is behind us now. I believe the staffing as presented in this bill provides for the necessary surveillance and enforcement for the commuter industry as it does for the rest of the industry.

Mr. **Benjamin**. Under your revised budget, you are proposing a reduction of 142 positions in the area of certification and inspections. Is this the result of an anticipated reduction in the workload?

Mr. **Luffsey**. Yes, sir, in part as well as the revised processes I had indicated to you we will have with the installation of the word processing equipment.

Essentially, as I mentioned yesterday, all of the recertification of the commuters is now behind us and we are back to a balanced program for all of our activities.

These accomplishments coupled with the modernization program will enable us to return to a more comprehensive program.

Mr. **Benjamin**. How much of that was, if you recall, contributable to the reduction in the workload?

Mr. **Luffsey**. That should not be difficult, just a second sir, ah, 80, that is, 80 of those are because of the word processors.

Mr. **Benjamin**. Okay.

Mr. **Luffsey**. So then that's the difference.

Mr. **Benjamin**. Is the 62 related to reduced workload? Are all of them associated with the commuter certification?

Mr. **Luffsey**. No, not entirely because the commuter certification load is behind us. We are back into a balanced program so our inspectors are now involved in all of the inspections on both air carriers and commuters.

(Fiscal year 1984 hearing record, p. 449)

Mr. **Lehman**. For your aviation standards program, operation and maintenance, you are requesting 2,094 positions, a reduction of 111 positions from your 1983 level. How are your personnel requirements in this area determined?

Mr. **Luffsey**. The reduction that you see there, sir, is a result of what we had testified to previously, improvements based on management initiatives and automation in the system. You recall the aviation safety analysis system and its cost-avoidance purpose, it is in the process of being installed in the field modernization phase of it now and it will be completely installed next year. We will go operational in 1984. As a consequence, we are able to reduce some positions. The total of 111 is out of this. This is the area, incidentally, that deals with inspections—the operations, the maintenance inspections and the like, in that entire area of activity, by freeing up our people based on automation we have more people to apply to the purpose as opposed to the details of writing, et cetera.

Mr. **Lehman**. Why are you replacing your permanent positions with temporary positions?

How long do you intend to retain these temporary personnel, what types of inspections will they conduct, and how much will you invest in training these personnel?

Mr. **Luffsey**. In the O&M area, we are asking the 111 permanent position reduction with a 100 temporary position allowance. Those positions are providing for a transition for us. We are able to pick up some of the furloughed or retired airline captains or pilots, and use them directly in our application while we convert our people over to air crew program managers as specialists where required or where we recombine air carrier district offices and general district offices into a flight standards district office-type of operation. So we are affecting economies in that sense.

Mr. **Lehman**. Last year you stated, in fact, "Last year, we came up to a level of 674 air carrier inspectors. We are looking at that. And if you were to ask me, is that enough, I would answer you, it has been enough."

However, a few months later your own Project SAFE report concluded that flight standards field staffing has been deficient for several years and other reports tend to support this conclusion. In view of the past testimony and these recent reports, how confident can we be and how confident are you that your planned increase in the number of inspectors will provide adequate surveillance of the airline industry?

Admiral **ENGEN**. Let me answer the last portion first, sir, and say that I am confident that the increased number of inspectors planned for will provide adequate surveillance for the airline industry. Last year we had extensive discussions with your staff and other members as to what we would do and when we would do it with respect to increasing the numbers of inspectors. I appreciate very much when you put the emphasis on "has" in my quote, it has been enough.

Subsequent to that, and as we discussed in our working with your staff, sir, we have further defined our standards for inspectors, and based upon that, I made my recommendation to Secretary Dole and she has granted that increase.

Mr. Broderick, would you like to add anything to that?

Mr. **BRODERICK**. I think the increase of inspection work force that we are talking about, 500 over fiscal years 1986, 1987 and 1988, is an interim assessment that we discussed at last year's appropriation hearings which bridges us between the eighties where we had no adequate method of evaluating our need for inspectors to next year's budget which will be the first one that we will build literally from the bottom up, from the environment, the work rates that we have developed in Project SAFE, and the inspection requirements, will all be summed to generate a requirement number not from the top down as has been done in the past.

Mr. **LEHMAN**. I have a number of questions I want to pursue on these inspections as well as some questions I want to ask on aviation security as it relates to antiterrorism, but I would like to defer to other members of the subcommittee at this time.

Mr. Coughlin, do you have additional questions at this time?

AIR CARRIER INSURANCE

Mr. **COUGHLIN**. Thank you, Mr. Chairman.

I share the Chairman's sort of intuitive feeling that inspection at least as we move on into the future is perhaps a larger problem than the air traffic controllers themselves, particularly with the proliferation of carriers, with the mergers and bankruptcies and great pressure on the carriers as a result of deregulation.

I guess I wonder, with all of this happening and with what we see in the insurance industry generally, which has certainly tightened up in the past year, I wondered how much of a problem insurance was for air carriers at the present time?

Admiral **ENGEN**. I think that in the aviation industry itself, Mr. Coughlin, insurance is becoming an increasing burden across the board. Air carriers generally are obtaining the coverage they need at increasing cost. I might add that the aviation industry is much broader than the air carrier sector though, and that the insurance premiums on general aviation have increased to the point where they are severely constraining the operation of the individual in the United States.

It is a factor that must be counted, as to how much it costs to fly each hour. It is indeed a problem, more in general aviation than it is for the major air carriers.

Mr. COUGHLIN. I know our colleague, Bob Carr, has questions along those lines, so I will defer for the moment on general aviation since I support the legislation he proposes, but I want to direct it to the major carriers themselves, it is not a problem for them at this time?

Admiral ENGEN. It has not been reported to me as a problem at this time.

Mr. BRODERICK. As far as I can tell, while the costs have gone up certainly it is available at a cost which they are able to pay and at policy levels which are appropriate to their business.

Mr. COUGHLIN. Is this something the FAA is monitoring——

Admiral ENGEN. It is not something that we control or regulate. We take note of it as just one more element of the overall aviation picture, but we don't regulate the amount of insurance that a major air carrier carries.

Mr. COUGHLIN. Thank you, Mr. Chairman.

I have follow-up questions and I don't want to talk about Mr. Carr's subject.

Mr. LEHMAN. Thank you, Mr. Coughlin.

I yield to Mr. Carr, the gentleman from Michigan.

DETROIT METROPOLITAN AIRPORT OPERATIONS

Mr. CARR. Thank you, Mr. Chairman.

Hello again, Admiral.

I gave you a tip on some of the questions I might ask today, and I hope that we can get on with some of those that I raised with you initially last Wednesday, I believe it was.

First though, I want to talk a little bit about the Detroit metro area, and ask you a few questions that are fairly close to home to me and then maybe branch out into some others before yielding to some of my friends up here.

Do you have any up-to-date operations numbers for Detroit Metro Airport?

Admiral ENGEN. With respect to the traffic count?

Mr. CARR. Total operations. In the Detroit metropolitan area we have seen an enormous growth. We are quite happy with the fact that Republic Airlines has made Detroit-Wayne County Airport a major hub. Northwest Airlines is in the process of doing so. We don't quite know what the merger of those two airlines might mean in terms of overall Detroit operations, but just a few years ago it was not hard to get yourself out at the end of the runway and get going.

Now with the major hub operation there they are really lined up so I just visually know we have more operations there.

Can you give us what the operations have been over the past three to four years?

Admiral ENGEN. I will ask Mr. Luffsey to give you what figures we have with us, but let me say first of all that the changing pattern of traffic flow as a result of deregulation has had a profound effect on the entire system. Whereas three or four years ago a carrier would begin hubbing without advising the FAA beforehand, and we would wake up to the fact that traffic had increased at an airport, today those air carriers are coming to us and we are working together so that when a hub is established we know beforehand. We honor whatever confidentiality any carrier might have with respect to his plans.

But we are able to place our air traffic controllers there to handle that traffic. We are finding that the constraints in these United States to air traffic are the availability of macadam and concrete, the availability of runways. You cannot put 45 airplanes into an airport in 15 minutes. You need to plan and I am preaching to the choir, I know, because I believe you agree with me.

We have to make communities aware of the fact of growing air commerce and these communities must bank land, must prepare for the future and must build the airports for tomorrow. Otherwise we will find other airports like LaGuardia, Washington National, Chicago O'Hare, and perhaps as Detroit is going now.

Walt, would you give what figures you can?

Mr. **Luffsey**. Sure will.

In terms of total IFR traffic handled, which is one measure, 1984 was 514,344, in 1985, 570,279, and it was just pointed out to me that while we were reviewing the record of yesterday, it turns out that Detroit Metro set an all-time—record busy day since August 3, 1981, for a total of 1,392 operations yesterday.

Mr. **Carr**. Now, to go along with those figures I wonder if I have some staffing figures to go with that?

Mr. **Luffsey**. Yes, sir.

As a matter of fact, Detroit looks in pretty good shape. It shows 96 percent full performance level controllers there. They are at 108 percent operational controller level and at 120 percent of the staffing standard. So they are in pretty good shape in terms of staffing.

Mr. **Carr**. One hundred twenty percent of the—

Mr. **Luffsey**. Keep in mind you might be over because of training and you must do that because there is a possibility of washout, so there is some planned overage, but in this case those are the accurate figures as of the end of March.

Mr. **Carr**. When you talk about that new record day of 1,392, given your experience in eyeballing that, can you give us a guesstimate of what the total operations will add up to for the calendar year 1986?

Mr. **Luffsey**. Jack, do you have a feel for that?

Mr. **Carr**. An estimate.

Mr. **Ryan**. It looks like the operations from 1986 to 1985, the difference is up 16 percent, and I would imagine that with some mild increase in traffic with Republic and Northwest, I would imagine that would be a three to four percent increase.

Admiral **Engen**. We could provide this for the record in detail.

Mr. **Carr**. I would like some of that detail.

[The information follows:]

The total airport operations costs for Detroit Metro Airport for FY 1985 were $366,089. The estimated cost for FY 1986 is $404,300. This will be an estimated 10 percent increase.

DETROIT APPROACH CONTROL

Mr. **Carr.** Let's talk about the Detroit local area, Detroit approach control. Have you been able to get some statistics for me on that? I am particularly interested, as I indicated to you before, on the implications for various non-FAA services at Customs Service at Pontiac-Oakland, the hypothesis being that a large number of transiting aircraft whose ultimate and final destination is Pontiac-Oakland, are being required to divert either to Port Huron or to the very busy Detroit Metropolitan Airport for the simple reason of gaining Customs Service and I wonder if we can talk about—what I am going to try to do in my research is to try to determine what kind of a burden the lack of Customs Service at Pontiac-Oakland is to the FAA systems there.

I would like to get some ballpark numbers if we can on that.

Admiral **Engen.** I am going to ask Mr. McDaniel to respond, but let me say first of all that I understand where you are going. We would like to do anything we can to enhance the use of reliever airports. Although Customs is certainly not under the FAA's purview, I will work within government to enhance—or make attractive—going to reliever airports, where I can.

Dale?

Mr. **McDaniel.** Congressman, we will assemble information as best we can regarding the origin and destination of the international traffic moving through Detroit. When we have assembled that information, we will provide it to you.

[The information follows:]

There are currently 88 arrivals and 86 departures conducted by scheduled international carriers in and out of Detroit per week. These figures will vary by season. Scheduled international departure points from Detroit are Reykjavik, Iceland, and Luxemborg. Scheduled international arrivals to Detroit are from Quebec, Ontario, and London.

The absence of Customs Service at Pontiac-Oakland has no effect on FAA operations concerning Pontiac-Oakland or at any other airport in the geographic area.

AIRPORT SECURITY

Mr. **Carr.** Well, I appreciate that and I appreciate your response as well, Admiral Engen, because all too often we find as we sit here in the Appropriations Committee that budget cuts and austerity in one hand of government is really an exercise of trying to find out how deep into the other agency's pocket you can get—not intentionally, but each administrator like yourself is trying to reduce costs in that budget that you are responsible for, and sometimes we don't realize how we are pushing up costs in other budgets, and hopefully because we sit in supervision of all of these budgets here, maybe we can have a hand at rationalizing some of this.

Hypothesis has yet to be proven, but I think that the Customs Service in an effort to marginally save themselves money because we at Oakland-Pontiac Airport are willing to reimburse for the Customs Service at Oakland-Pontiac, it is not as though we are asking for a free service and we think that the private reimbursement fees for Customs Service at Oakland-Pontiac can have, if not a significant, at least a marginal impact on traffic growth in the area, airport transiting from one area to another for the sole convenience of the Customs Service rather than for the convenience of the ultimate user.

We all submit to Customs' inspections not for our convenience, but to help law enforcement and help the country as a whole. I guess I could make a good case that really the country as a whole ought to pick up this law enforcement function, but the people using Oakland-Pontiac Airport are willing to reimburse to have it done for their convenience there.

I might also indicate that because the Port Huron Airport is close enough to Detroit, we might also want to look at airport transiting through that airport where they have Customs Service as well.

One other thing about Detroit, and this is a how big is the outdoors question, I realize. Your answer must necessarily be very broad, but I think with the events in the Middle East, there are some of us who, not trying to alarm the traveling public, are nontheless apprehensive that someday, somewhere, somehow, one of our airports is not going to be free of a terrorist attack.

I just think the odds are there that instead of a Rome and a Vienna and an Athens, one of our airports is going to be struck for its symbolic nature. Indeed, I worry a little bit as I go through airports, traveling a lot myself, that—I don't think that the security is near enough.

I know there have been a number of enterprising television news organizations that have gone out and tested the system and found it lacking. Some people may think that is an unfair test.

Number one, I would like to know what the FAA is doing not only nationwide, but what they might be doing in the Detroit area. It is an international airport. We have several nonstop Europe-to-London flights a day out of Detroit. We have several flights in and out of Canada per day.

I know from my association with the people at Immigration and Naturalization and the Detroit office there that there is a great deal of international commerce in addition to movement of people, foreign nationals, through the Detroit Metro Airport, and I wonder what you can tell me about Detroit's security status right now, if you know of anything that is lacking.

I would also like to know if—well, let's take one question at a time. Is there anything lacking at Detroit right now?

Admiral ENGEN. Let me talk generally, first of all, and come back to your last question, is there anything lacking at Detroit.

Mr. Carr, as you know, the responsibility for security is that of the airport authority, and the responsibility for security of aircraft is that of the carrier or the individual.

The FAA sets the rules and regulations and enforces them. In doing that, we go daily about the entire United States testing security at airports, including Detroit, looking at perimeter fencing and the procedures of people. Where we find deficiencies, we take action, civil penalty action. Coming across my desk each week are some 10 to 15, perhaps once in a while as high as 20 individual actions that Mr. Broderick and his people in the field have taken with respect to security.

When you speak nationally, I would say again, I don't know whether I gave these figures to you day before yesterday or not, but last year we had 370 million people fly in the U.S., and that was indeed a record. We had two attempted highjackings. They were attempted and foiled within the nation. I think that says something about the security that has been established nationwide.

With respect to Detroit specifically, it is an international airport in the sense of the flights that you spoke of, and so it merits additional security precautions and inspections which we make at all the international airports both in the United States as well as overseas where American air carriers fly.

I cannot give you specifics at this time on Detroit itself.

Mr. Broderick, do you have any specifics?

SECURITY DATA ON DETROIT

Mr. **Broderick**. I am unaware of any specific deficiencies that we may have identified at Detroit, but we will check it and if there are any, we will be happy to report back to you right away.

[The information follows:]

Detailed data concerning the status of security at the Detroit Airport are being collected and collated. This data will be transmitted to the Committee and Mr. Carr's office no later than May 9, 1986.

PASSENGER SCREENING

Mr. **Carr**. I would appreciate it if you could do it by letter as quickly as you can.

Admiral **Engen**. There are none to my knowledge and these deficiencies come across my desk daily and summarily by the week. I have seen none, but we will look.

Mr. **Carr**. When you say you test these things, I assume that includes walking through the usual magnetometers and just checking to see whether the people are following the correct procedures, right?

Admiral **Engen**. More than that.

Mr. **Broderick**. We have a number of tests for the magnetometers, the guards themselves, the screeners, for the X-ray machines, directed at anti-highjacking and sabotage prevention.

Mr. **Carr**. How many tests like that through the passenger-screening tests, how many of those do you perform on the average airport per year?

Mr. **Broderick**. I don't have those figures, but we can provide them.

That is, in fact, a major part of our surveillance activity. I am sure it is in the thousands nationwide for each airport, though I don't have them specifically.

[The information follows:]

Order 1650.7A, Civil Aviation Security Program Guidelines, requires airlines in Category I airports (those screening at least 2,000,000 passengers per year) be inspected 3 times a year; Category II airports (those screening at least 500,000 but less than 2,000,000 passengers per year) be inspected 3 times per year; Category III airports (those screening less than 500,000 passengers per year) be inspected I time per year: and Category IV airports (those airports served by less than 60 passenger seat aircraft) be inspected one time every 2 years. Passenger screening tests are part of each inspection.

In addition to the minimum requirements, the Federal Aviation Administration periodically conducts special tests. During January and February 1986 screening systems at 62 major airports were tested an average of 21 times per airport.

AIRCRAFT SCREENING

Mr. Carr. I would just note—these are just some observations I have made as I have climbed on and off airplanes, that the FAA might do a little better if it had some better public information about rights and responsibilities in aircraft screening.

I have witnessed a number of occasions when someone who really was unfamiliar with the rules of the road, perhaps a first-time traveler, immediately gets into an argument with one of the screening personnel, lines back up, and then in an effort to rush people through to get rid of the backlog, it seems to me that security somewhat breaks down.

I find that a lot of people may not understand what they can be called upon to do and where their rights are as well.

Admiral Engen. I accept that, sir, and I think that we try to educate the public. The public generally becomes educated by example, and I know exactly what you are referring to.

I find that the security personnel working under contract are very dedicated. Human error being what it is in the cockpit, on the ground, at the security station, people do err; our challenge is to keep the person as alert for as long a period of time as possible to be sure that we don't allow any backlog to provide less screening capability.

I do find that the people who are traveling, the passengers, appear more tolerant now because of recent events. I find people accepting delays where we have increased our vigilance internationally as well as nationally. I find people willing to accept those delays where they have been backed up. So hopefully the public will understand that it is for their own good.

Mr. Carr. My last question is one of indulgence of our office, at some point I would like to have one of the people, one of the staff responsible for the testing, particularly of the screening mechanism that you have, to come to my office and give me a thorough briefing myself on exactly how that testing takes place and what that kind of test involves.

Admiral Engen. We will be very pleased to provide that.

Mr. Carr. I have many more questions, Mr. Chairman, but I think I will relinquish at this time.

Mr. Lehman. Thank you.

At this time I yield to the gentleman from Illinois, Mr. Durbin.

PILOT STANDARDS

Mr. Durbin. Thank you, Mr. Chairman.

It is good to see you, Mr. Engen. I have questions relating to my personal experience in airplanes and in airports.

With deregulation, we have seen the disappearance in many smaller Midwestern cities of major airlines and emergence of commuter airlines. I learned via television that the standards applied to certified commuter airline pilots are significantly lower than those applied to major airline pilots.

Could you give us a little background on that?

Admiral Engen. I could, sir, but I would like to go to Mr. Broderick and let him answer specifically.

Mr. **Broderick**. I think the standards referred to probably referred to training and checking. Rather than saying they are lower, I would say that they are different.

There are, in fact, very stringent checking and training requirements. The major difference between the two types of operations is generally related to the size and type of the equipment, and also the fact that we do not specify actual training hours in commuter aircraft, rather, we specify tests that must be passed, proficiency tests, multiple times a year.

Mr. **Durbin**. Is there some significance to 19 passengers? Is that a threshold figure for standards?

Mr. **Broderick**. It is a line that informally, if you will, informally in a regulatory sense, divides commuter airplanes from larger airplanes.

Mr. **Durbin**. If we are talking about the consuming public of America and their concerns about safety, can you tell me why there should be two different standards?

It makes no difference to me. I would much rather fly a major airline. I don't have that choice any longer with deregulation. I would like to feel that whether I have that choice or not, the competency of the pilot is the same regardless of the size of the airline.

Mr. **Broderick**. In fact, the level of safety that we require of both airlines is identical.

Historically and practically speaking, you look at commuter airlines, which could conceivably involve a small four-passenger aircraft, and you then cover the spectrum all the way up to a 650-passenger 747. There have been differences in the way the two industries evolved.

The level of safety that we demand of each one of them is in fact, the same. The performance that we demand of pilots in both aircraft is similar in terms of the kinds of tests that we require them to pass, and I think it is demonstrable that the safety record that the commuter airlines have is remarkably improved over the last five or ten years.

For last year, the commuter airlines had their safest accident record in history.

Mr. **Durbin**. Of course, everything is relative. I understand that, and you do, too. But I can't understand your distinction between the same level of safety and different standards for pilot training and ability.

Admiral **Engen**. I might interject, Mr. Durbin, that the pilots are required to meet the same requirements with respect to navigation and safe operation of their airplanes whether they are flying a B-747 or flying a Beech King Air. Those pilots, when they are certified, must meet standards which apply to their airplanes, so the pilots provide the same level of proficiency.

Mr. **Durbin**. Is there not a distinction between major airlines and commuter airlines, for example, as to how many hours a pilot has to have on the plane before they are certified?

Mr. **Broderick**. No, sir.

Admiral **Engen**. No.

Mr. **Durbin**. What is the difference then in the——

Admiral **Engen**. I think we are getting into an economic difference, Mr. Durbin, if I might interject.

Let me say that before deregulation, the airline industry seemed to take most of its pilots from the military. That has changed with time. It vacilates, but right now the major carriers are taking most of their pilots from the commuter airlines.

This is drawing from the commuters those people who want to ascend to flying Boeing 747's or DC–9s, or whatever. This then creates the problem of recertification or qualification of a new pilot.

This is the process that we are working with right now, and I think what you are implying is that the less-experienced pilot, in relation to total numbers of hours, comes in to fly the 19 or less passenger airplane.

I would like to assure you that less experience doesn't show in the accident rates as a factor, and I would ask Mr. Broderick to disagree with me if he wishes. It shows that the professionalism of the individual, regardless of the time you have in the air is the determining factor.

COMMUTER SAFETY REGULATIONS

Mr. **Broderick**. I would only add, Mr. Durbin, that the commuter safety regulations—that is regulations that are tailored to the commuter airlines—are in fact more modern than the other Part 121 or large airline regulations. They were rewritten completely in 1978 and all the airlines that are subject to them had to go through a recertification that was completed in 1979. So those rules were recently reviewed.

They are not something, however, that we view as static or as rock-solid. And as a matter of fact, because of the kinds of changes that we are seeing in the industry, the kinds of experience level changes that the Administrator has talked about, and the sources of pilots being different today than it was ten years ago, it is something that we have actively under review.

Mr. **Durbin**. I think what the Administrator said is there is a market force at work that creates a different pool to draw from. I will acknowledge that.

The other night I got off an airplane in my home town; the two pilots were both young women, and I might add, they did an excellent job—probably as good a job as anyone in landing the plane. I asked one where she had been trained; she said, "While I was a stewardess, I took my training on weekends." They did a fine job landing the plane.

I wouldn't criticize them for their background. But the question that came up in my mind was whether the level of training for that pilot was comparable to the pilot who had flown the TWA airliner or the Ozark airplane.

Admiral **Engen**. It is a matter of fact that you cannot put 40 years of experience into a 25-year-old person. But what I am trying to convey, Mr. Durbin, is that people must meet federal criteria in order to be licensed, and they are capable.

AVIATION SAFETY RECORD

Mr. **Durbin**. Are you saying that if I look at the safety record of commuter airlines compared to major airlines, I will find no sigificant differences?

Mr. **Broderick**. The commuter airlines have an accident rate, on the basis of hours flown or flights flown, slightly worse today than the major airlines. You have to recognize, however, that the numbers are so small that those differences for all practical purposes are disappearing.

Five or ten years ago, there was a marked difference. We have come down significantly in terms of accidents in commuter airlines. There is no substantial difference. There are accidents and we still want to eliminate them.

Admiral **Engen**. The year 1985 showed the greatest reduction in accidents in commuter airlines ever.

Mr. **Durbin**. Has deregulation with proliferation of commuter airlines over the last two years been factored in to this comparison? Has that shown up in your statistics?

Mr. **Broderick**. Absolutely.

Mr. **Durbin**. Is it positive or negative?

Mr. **Broderick**. The commuter airline industry taken as a whole, as we report to the Congress on an annual basis, has since 1978 every year improved and the improvements are in their safety record, and they have been dramatic. They are in fact very, very safe operations.

AIRLINE SAFETY AND SECURITY RATINGS

Mr. **Durbin**. Let me move to another line of questioning.

Why don't we rate airlines for safety and security so that a consumer, knowing that he or she has a choice of traveling on two different airlines, might know that one airline has an extremely bad record in terms of penalties and violations for safety or security, and the other alternative has a relatively good record?

Admiral **Engen**. For a good basic reason, Mr. Durbin. First of all, our civil penalty action is not secret or clandestine, and it is in the public forum. Those actions are available in the press.

Mr. **Durbin**. I will restate the question. We let consumers know through various Federal agencies how safe cars are and——

Admiral **Engen**. I got it, thank you.

Mr. **Durbin**. Now, we have a new concern beyond the safety of the airliner, that is the security of the operation. I think the Amercian consumer has a right to know what the airlines safety record is. Are you suggesting that there is some Federal document where a person could draw that conclusion? We owe the American public a much simpler and understandable version of that evaluation.

Admiral **Engen**. I understand.

Each and every carrier must meet the standards to operate in a safe manner. We do not rate any air carrier one over the other because that would be very qualitative and you could say argumentative and possibly biased judgment.

Each carrier must meet the standards or exceed the standards. That is what we inspect for. We go in and make sure they meet or exceed Federal Aviation Regulations. By doing this in compliance with the Federal Aviation Regulations, it means that every air carrier out there is of equal demonstrated ability.

Now, if an air carrier has an accident, as a major air carrier does from time to time unfortunately, that is public knowledge, and I think that does unfortunately have an impact upon ridership. I think people see their passenger count go down after an accident.

It is in everybody's best interest to operate as safely as they possibly can, but I want to end by saying I would resist trying to categorize airlines by safety index. It is done by meeting the Federal Aviation Regulations.

SAFETY VIOLATIONS

Mr. **DURBIN**. Sir, it is not very consoling to think I might not fly a plane because they have just had a crash. I would like to know in advance how many citations or penalties have been issued by the FAA for violations. I find in our notes for this hearing that one major carrier had some 78,000 violations last year, and that four major airlines were subjected to large civil penalty actions.

The consuming public is probably not aware of that.

Admiral **ENGEN**. I think they are. May I disagree a little bit in that when a civil penalty is assessed, we make a statement of that fact to the press and to the newspapers. I believe that I have read throughout this past year factual reporting of our civil penalty proceedings.

DOMESTIC AIRPORTS SECURITY STANDARDS

Mr. **DURBIN**. Let me ask you if you have given any consideration to a grading system or some type of public notification about the level of security in domestic airports?

Have you tried to establish a standard?

Admiral **ENGEN**. Sure.

Mr. **DURBIN**. Have you found that some airports exceed those standards while others just minimally meet the standards?

Admiral **ENGEN**. We find that every certificated airport must abide by the Federal Aviation Regulations, Part 139. This applies to fueling practices, field conditions, and the way the airport is operated. The regulation spells it out in detail.

We add to that security requirements at every certificated airport. Major international airports are more closely monitored than the national airports because of the potential threat there.

We do not, again, rate airports by any particular scale. We look to the airports to meet and exceed Federal Aviation Regulations.

RESEARCH FOR NEW SECURITY DEVICES

Mr. **DURBIN**. I understand that some of the money appropriated to your agency last year is being used to conduct research to develop new devices that might be used in airports for security purposes, such as thermal neutron detectors for checked baggage and enhanced explosive vapor detectors for hand-carried luggage.

How is that research coming along?

Admiral **ENGEN**. We are making good progress, and I would ask Mr. Broderick to talk in detail.

But generally speaking, let me say that we proposed $11,300,000 for such work in Fiscal Year 1986, and we are asking for $12,200,000 for 1987 for research and development of that particular equipment.

Mr. **Broderick**. Both of those techniques show great promise. The explosives vapor detector is being developed for prototype delivery in 1988, of a device through which—like a magnetometer—through which people would walk and hopefully it might prove to be able to detect explosives.

The thermal neutron device, of which we actually have four different parallel efforts under way for different technologies and different approaches, appears to be an effective way of detecting explosives in checked luggage.

In addition, we have a number of other efforts under way that are quite high risk and exploratory in development. Over a three-year period, we expect to be providing about $32 million in total funding for those kinds of efforts.

Mr. **Durbin**. Is this research fully funded at the present time?

Mr. **Broderick**. Absolutely, yes, sir. We could not go any faster if we had more funds.

Mr. **Durbin**. I sure wish the Department of Defense would say something like that once in a while. It seems that agency never answers that question the way you just did.

Are you testifying this morning that more money wouldn't speed up the development of these detection devices?

Mr. **Broderick**. Yes, we are technology-limited. We have tried to figure out, believe me, a way to speed that up and we just cannot. Those programs represent speeded-up efforts which have already got funding that is enhanced as far as it is practical to do so.

Mr. **Durbin**. How soon can we expect to see these in the airports?

Mr. **Broderick**. If the devices pan out—and we have no guarantees because this is a very, very difficult problem that people have been working on for more than 20 years—if they pan out, we could see them within the next couple of years begin to appear at airports, and of course they would begin to appear at airports that are the most highly threatened. We would start with experimental devices that have perhaps less performance and less convenience than we would like.

USE OF DETECTING DEVICES

Mr. **Durbin**. Is the present system we use to detect whether a person has a gun or some explosive a vapor system?

Mr. **Broderick**. It is an X-ray system, or a magnetometer, or metal detector.

Mr. **Durbin**. Is that the same type of system used in London at Heathrow-Gatwick?

Mr. **Broderick**. They use those. They also have a vapor detector system they have been experimenting with. We are aware of it and we work very closely with them and the Canadians on that technology and their progress in it.

Mr. **Durbin**. Can I conclude from what happened yesterday in London that a plastic explosive would not be detected by the magnetometers currently in use in American airports?

Mr. **Broderick**. Or anywhere else in the world. The purpose of magnetometers, sir, is to detect weapons, guns, not plastic explosives.

Mr. **Durbin**. Are you suggesting that what happened yesterday in London, where a woman apparently went through the ordinary detection device with a plastic explosive and was not discovered, could happen in an American airport because of limitations in our current devices?

Admiral **Engen**. Let me add one thing. I would say, yes. But it was detected through manual means.

We are not sitting idly by waiting for these thermo-neutron or chemilluminescent detectors to come along. We are looking manually, and we are using the magnetometer, and where people fit the profiles, we conduct in-depth, manual searches. It is that procedure which was used in London.

Mr. **Durbin**. I don't know if I have ever seen a manual search in all the times I have been through airports except for a Customs line coming into the country.

Admiral **Engen**. I would like to say, Mr. Durbin, I think you may be seeing it more in the future.

Clearly, security is foremost in all of our minds, yours and ours, and we are tightening security. I would like the traveling American public to know that it is for their own good. It may bring about some delays in our system because it needs to be done with thoroughness but we will have security.

Mr. **Durbin**. We recently had a debate in Congress on gun legislation. There was testimony from two gentlemen from New York, Mr. Biaggi and Mr. Mrazek, about the development of an all-plastic firearm. It is anticipated that such a firearm will be available in a few years.

Can you tell me whether you are following the progress of that development?

Admiral **Engen**. We are, sir. I would say in the current case the so-called plastic gun is by weight 83 percent metal and therefore detectable.

The clip is detectable; the springs and the barrel are detectable. It is a matter of training people.

We are watching further developments with concern and we will stay abreast of the technology.

Mr. **Durbin**. Did your agency consider making it known whether or not you supported our efforts to add an amendment to this legislation which would have precluded the sale of all plastic firearms in the United States?

Admiral **Engen**. We always try to support everything that Congress does.

Mr. **Durbin**. Can you repeat that—

Admiral **Engen**. I don't recall that we made any statement.

Mr. **Durbin**. Would that be the type of legislation you would support?

Admiral **Engen**. Yes, sir.

SUPPLEMENTAL APPROPRIATION

Mr. **Durbin**. I want to ask you to repeat something you said yesterday or at least expound on it a little bit. Did I understand your testimony that if you don't receive the $80 million supplemental appropriation you would curtail commercial air traffic?

Admiral **Engen**. I do indeed need a supplemental in order to operate the agency. Yes. It is vital.

If that supplemental were not forthcoming—and I want to thank the Chairman and the committee for their support in this matter—if for reasons unknown, I would have to take strong action. FAA is an operating agency and it operates 24 hours a day. I pay salaries 24 hours a day, and I would indeed run out of money. But I cannot spend in excess of my appropriation. I don't want to go to jail.

So I would have to take strong action in order to stay within my operating capability and above all, I will maintain the safety of the system. If I have to manage by reducing the number of people available to work, I am not going to let the system go critical and become unsafe, therefore I would consider constraining air commerce.

Mr. **Durbin**. What is the last date when you would draw the line and say "beyond that, we will not function as an agency if we have not received our supplemental"?

Admiral **Engen**. We are over halfway through the year now, and I am chewing up about $216 million a month. I need that money as soon as I can get it. In the wisdom of Congress, I would hope it would be forthcoming in a matter of weeks.

If it is indicated to me that it is not forthcoming, then I will have to begin to take action certainly before the 1st of June in order to accommodate this.

Mr. **Durbin**. Are you saying that if you don't have the supplemental appropriation passed and signed by the President by June 1, you will start curtailing commercial air traffic?

Admiral **Engen**. I have to start taking the initial steps to do it. Secretary Dole has said we will not furlough the air traffic force; we will not furlough the inspector force, we will maintain our security.

The agency is a very finely woven agency, and I have attorneys supporting those inspectors who do security inspections. I have secretaries supporting inspectors, and I have people supporting the air traffic controllers.

So if I have to draw down on any part of the agency, it will begin to impact upon the total agency. I will have to start taking those steps about 1 June.

FLIGHT PROCEDURES STAFFING

Mr. **Durbin**. There are some increases for operations in your 1987 budget request, but some programs will face cuts.

There is concern that the instrument flight procedure sections in your field offices are understaffed at the present time and that they are not able to keep up with the increasing workload. Apparently, a large percentage of the people working in those offices are trainees, and the FAA has deleted formal FAA academy training in procedure development.

Would you comment on this observation?

Admiral **Engen**. I wonder if I could ask Mr. Goodrich from Oklahoma City to comment on this.

Mr. **Goodrich**. Yes, sir. I think we are meeting the current demands in the flight procedures area at a reasonable rate. Probably, on a national basis, we have approximately a six months' backlog, which is not unrealistic with the amount of charting time.

During the recent consolidation of our offices in the Michigan area and the Minnesota area and on the west coast we did lose some very vital, experienced people that opted to leave the Federal service rather than relocate.

We are hiring back. We do have a lot of trainees. It is a problem. Presently, we are facing the biggest effort of installing navigation facilities this agency has experienced; Loran C and the installation of MLS, for example, but I don't see it as a limiting factor for the agency's plan of mass installations of navigation facilities.

Mr. **Durbin**. Have budget constraints in this area had an impact on safety as far as you are concerned?

Mr. **Goodrich**. No, sir. We have been allowed to continue the hiring and we are hiring really as fast as we can find qualified people from the register to fill those.

It takes about two years from the time we hire a fairly high level airline pilot to become a procedure specialist.

Mr. **Durbin**. What should I conclude about change in procedure where you no longer require FAA academy training in procedure development?

Mr. **Goodrich**. That is probably a very simple truth. We do require it. It is a matter of when a person is ready to go to that specific course. It is a five-week, really a rules course, more importantly it is a pilot background. We do require that.

It was cut off for other than our procedure specialists. We still run those classes as necessary for FAA people.

Mr. **Durbin**. You still have a large percentage of these specialists that are trainees, though, is that correct?

Mr. **Goodrich**. Yes.

Mr. **Durbin**. All right.

Mr. **Goodrich**. I should clarify that. We do not have trainees who are certifying procedures. It adds to our backlog rather than to the safety problem really.

Mr. **Durbin**. Mr. Chairman, you have been very patient.

Gentlemen, thank you very much for your testimony. Thank you.

Mr. **Lehman**. Thank you, Mr. Durbin.

Mr. Coughlin, do you have any questions?

Mr. **Coughlin**. No, I will inject as we go along.

AVIATION SAFETY INSPECTOR WORK FORCE

Mr. **Lehman**. You can jump in whenever you have a question.

As you know, the conference report on the continuing resolution directed you to fund an additional 300 inspectors.

In your February 28, 1986, letter, you stated:

> With regard to aviation safety inspectors, we will be increasing the work force by the additional 150 inspectors the Secretary requested for fiscal year 1986. Other aviation inspection positions will be filled to the extent funds are available and with the intent of meeting the conferees' goal to the maximum possible extent.
>
> We plan to open the civil service register in March to obtain new inspector applicants. The first three-week training course will begin at the end of March, and the final group will begin training in early August. This schedule should permit us to augment the work force essentially as directed by the conferees.

How many inspectors have you added to date this fiscal year and is it still your position that you will be able to increase your inspector work force essentially as directed by the conferees, assuming Congress approves a fiscal year 1986 supplemental of at least $80 million?

Mr. **Broderick**. Because of the decline due to attrition in the first quarter this fiscal year we have just now been able to get back to about where we were with attrition last year. We do in fact plan to hire to fill the full complement of inspectors this year.

Our estimate at the end of fiscal year 1986 is that we will actually have the full complement hired and in training at that time.

Mr. **Lehman**. Just to clarify, is the full complement the 150 number or the 300 number?

Mr. **Broderick**. It is 150 inspectors, plus the additional 150 for a total of 300 inspectors and support personnel, specifically that breaks out into approximately as directed by the continuing resolution, 200 inspectors, 100 support personnel as our current plans, and that assumes that we have the funds to do it, sir.

Mr. **Lehman**. Support personnel means support personnel to the inspector force?

Mr. **Broderick**. Yes, including a few clerical people, mostly people that are technical people, actually inspectors and managers writing handbooks and supervision of inspectors. They are working inspectors for the most part.

ADDITIONAL INSPECTORS

Mr. **Lehman**. Getting back, your fiscal year 1987 budget requests an additional 138 inspectors. If you add a total of 300 inspectors in fiscal year 1986, will you add any additional inspectors in fiscal year 1987?

Mr. **Broderick**. Yes, sir, and that would make a total of 438 and in order to do it as is recognized in a footnote in one of the tables of the budget, we are going to have to readjust some internal financing because that extra 150 inspectors that was directed by the continuing resolution this year was not funded.

So we will have to do a little readjusting. But it is our intent to do that for a total of 438.

Mr. **Coughlin**. Mr. Chairman.

Mr. **Lehman**. Mr. Coughlin.

Mr. **Coughlin**. But you can do the extra 300 assuming you get the $80 million supplemental, or do you need more than that?

Mr. **Broderick**. Well, assuming we have the $80 million. That is included in our present budget right now, in our present spending plan now.

Mr. **Coughlin**. If you get the $80 million, that will fund 300.

Mr. **Broderick**. Yes.

Admiral **Engen**. If I could, please, Mr. Coughlin, I want to raise one point here. When I testified I told you that our cuts in accordance with Gramm-Rudman-Hollings had a domino effect, and with passage of time, we find that one thing has impacted another.

I visualize that we will have enough to do as Mr. Broderick says, but daily or weekly I am uncovering other areas which I am having to accommodate inside my agency. I wouldn't want to imply that we are able to do this with great ease.

It is very difficult to stay within that supplemental and our operating budget.

Mr. **Coughlin**. Thank you.

Mr. **Broderick**. If I might, just to make sure we are very precise in these numbers. The numbers that we have been talking about, 300, and the 138, they are ceiling numbers. We are actually funded, as you know, to 95 percent of that at any one time. So we expect to have 95 percent of those numbers onboard when we are up to full strength.

Mr. **Coughlin**. Thank you, Mr. Chairman.

ADEQUATE INSPECTION COVERAGE

Mr. **Lehman**. You also have to have the right kind of inspectors at the right place and the right time. What steps are you taking to assure that there is adequate inspection coverage until there are enough inspectors onboard and trained between now and fiscal year 1988?

Mr. **Broderick**. We have established program guidelines that are nationally applicable for every office and inspector. It sets priorities and takes the top priority work effort, which is inspection and surveillance and accident investigation.

Certification of new entrant carriers, or certification requirements of existing carriers, take a back seat and are second priority. It is the reprioritization and establishment of national minimums which we have relied upon to ensure that we have the adequate inspection coverage required.

INSPECTOR WORKLOADS

Mr. **Lehman**. What if anything have you done to reduce the workloads of inspectors responsible for commuter airlines and do you regard the current workloads of these inspectors as unrealistic?

Mr. **Broderick**. The current workload of all inspectors is very high, sir.

The staffing increases that we have requested and the staffing increases that we are currently undergoing take into account an equitable distribution of workload across the country regardless of the specialty of the inspector.

INSPECTOR STAFFING

Mr. **Lehman**. What impact did your national program guidelines, published in October 1985, have on the type, number, and allocation of inspectors and what effect will the national inspection plan have on the number of inspectors?

[The information follows:]

National Work Program Guidelines permit the Federal Aviation Administration to objectively identify the need for additional inspectors by formalizing the types, numbers, and priorities of specific job functions required on a national basis. Data on these new work programs have not yet been analyzed, but it is evident at this time that certain demand functions have had to be delayed in order to comply with the new guidelines. Additional inspectors will be needed to offset this impact. Also, the National Inspection Plan (NIP) increases the need for additional inspectors because the indepth inspections of air carriers, which are specified in the NIP are not included in the existing Flight Standards Staffing Standards.

STAFFING LEVELS FOR DISTRICT OFFICES

Mr. Lehman. Have you established staffing levels for each district office to determine the number of operations, maintenance, and avionics inspectors that the district office should have? If so, how are these staffing levels set?

Mr. Broderick. The formal reporting is actually done at the regional level which combines a number of district offices, but in practice, that regional effort is built up from district office programs, so the answer is, yes, and it is contained in the program guidelines.

INSPECTOR QUALIFICATIONS

Mr. Lehman. As a result of your Project SAFE, I understand you are planning a review of your inspector qualifications and revise them if necessary. What is the status of this review of inspector qualifications?

[The information follows:]

The Federal Aviation Administration (FAA) completed a Job Task Analysis (JTA) of inspector work functions on August 31, 1985. The contractor who developed the JTA has since been developing a training design plan to be presented to FAA by May 15, 1986. That plan will identify the basic qualification criteria for an inspector who is assigned to accomplish a given JTA task. A team has been formed to assess all inspector position descriptions. These position descriptions will contain assigned JTA tasks. The associated JTA qualification criteria will become the basic criteria for selection into the position. The current schedule calls for the reassessment of all inspector position descriptions by the summer of 1987. However, changes to the selection process for new-hire positions should be completed prior to that time.

Mr. Lehman. Do you believe you will be able to attract sufficient numbers of qualified candidates?

[The information follows:]

As of April 7, 1986, the FAA has received 4,500 applications for aviation safety inspector positions. Approximately 1,500 of these meet eligibility requirements. Recent revisions to training provide for concentrated initial training and screening to assure that personnel hired have the potential to become highly qualified inspectors.

INSPECTOR TRAINING

Mr. Lehman. Several of the reviews of your inspector program pointed out a need to improve your training program. What actions are you taking to improve your inspection training?

How quickly will these changes in your training program be implemented and what steps have you taken or are you planning to take to ensure proper training of your new inspectors during the interim time period?

Mr. Broderick. We have a comprehensive review of not only the tasks that need to be performed but the training and support in terms of handbooks, regulations and guidance material that needs to be provided to our inspectors so they can properly do their job.

We have addressed that in a comprehensive job task analysis that was performed for us by an OPM contractor. We are working very closely with OPM to address these needs.

Our first task has been to address the training requirements for new inspectors, the new inspector training courses have been completely redone and all the new inspectors that we are now hiring get a completely revamped course over a four-month period that starts within a month or two of their initial hire and ends with them being qualified to perform limited actual inspection duties in the field.

Mr. LEHMAN. You do have sufficient training resources to handle 300 new inspectors.

Mr. BRODERICK. Yes, we do, sir.

Mr. LEHMAN. We have been advised that prior to January 1, 1986, you had a program to provide 160 hours of training to newly hired inspectors, but you have reduced this training requirement to 20 hours. Is this correct?

Mr. BRODERICK. For initial training, inspectors receive approximately 20 hours flight instruction at pilot controls, but it depends on the kind of aircraft and kind of inspector you have.

We have initial training of 20 hours with four hours in the aircraft. We have recurrent training with 12 hours of flight instruction and two hours in the aircraft. We also have 16 hours of simulator proficiency training that our air carrier inspectors are given.

There is a different set of standards for the general aviation inspectors. This does represent a re-evaluation of the training program and attempt at making economies in the training program, but we are watching performance of these people and talking to them and listening to them to make sure that this kind of economy doesn't result in a loss of proficiency or an inability to do their job, and if it does we will correct that problem.

Mr. LEHMAN. Overall, you are spending less time and training hours on inspectors than previously.

Mr. BRODERICK. In terms of flight training, that is true. Not in terms of on-the-job training and inspection and surveillance kind of training.

What I was speaking of here was flight training.

Admiral ENGEN. And also we are increasing simulations.

Mr. BRODERICK. Yes.

Mr. LEHMAN. Would you expand on that for the record, how you squeezed down and how you adjusted your training programs?

Mr. BRODERICK. Be happy to do that.

[The information follows:]

Prior to 1986, inspector indoctrination courses consisted of approximately 160 hours. Revised inspector indoctrination courses were begun in January 1986. The duration of these courses ranges from 264 hours for air carrier operations inspectors to 384 hours for general aviation airworthiness inspectors. The new indoctrination courses include inspector orientation (40 hours) and indoctrination (96 hours for air carrier operations inspectors for example), fundamentals of accident investigation (20 hours), and compliance and enforcement (68 hours). The new indoctrination courses also include technical training that is tailored to each inspector career field. The courses no longer include advanced subjects which are now taught during recurrent training and/or during the principal operations inspector course. An integral part of the program calls for regularly scheduled recurrent/advanced training.

FAR COMPLIANCE

Mr. LEHMAN. As we discussed previously, the number of aircraft and air carriers has increased significantly since deregulation and the current population of air carriers includes large and small fleets as well as a variety of types of aircraft. In addition, the operations of carriers vary extensively.

Do you attempt to determine that all carriers are in compliance with FAR's over any given time period? For example, can the public be assured that each carrier is thoroughly inspected at least every six months, 12 months or 18 months?

Mr. BRODERICK. Sir, we actually have five different kinds of inspections. We have the literally daily inspections that are specified in the work program guidelines that are given for each carrier or maintenance facility, depending on the particular situation, and geographic location.

We also have special focus inspections, things like jet engine facilities or military charter operations that we have looked at, and in-depth inspections of major air carriers that cover each carrier with a national team on a three-year cycle. Those three types of inspections are directed from the national level.

On a local level we have, additionally the daily surveillance inspections and special inspections that might be locally determined as necessary.

So with that kind of coverage and with the kind of work program guidelines we have established and standardized across the nation, and the kind of focus that top management has put on inspection and surveillance, I think the public can be assured that we have daily inspection of the airlines.

FOREIGN CARRIERS

Mr. LEHMAN. Do you inspect at international airports the foreign airlines?

Admiral ENGEN. Let me answer that, Mr. Chairman.

Mr. LEHMAN. Like KLM, Air France, so on?

Admiral ENGEN. Under FAR part 129, we issue operation specifications which regulate foreign air carriers who fly into the United States.

We, to the extent we can, check on those pilots' credentials. We do inspect at the airports here, on occasion, to be sure those pilots are complying with pertinent requirements. That compliance is a national requirement on the part of that foreign carrier, and the responsibility for total operation of that air carrier belongs to its government.

Mr. LEHMAN. I am sure that Air France has or BOAC has a service facility at J.F.K.

Admiral ENGEN. Yes, sir.

Mr. LEHMAN. And they have their own service crews, but your inspectors don't check on their service capability?

Admiral ENGEN. On occasion we do.

Mr. LEHMAN. But not the same as the American carriers.

Admiral ENGEN. That is correct.

Mr. LEHMAN. Would you give us something for the record on that? I would like to know the differences in the kinds of responsibilities you feel towards them.

[The information follows:]

The Federal Aviation Administration (FAA) regulates foreign air carriers in accordance with Part 129 of the Federal Aviation Regulations. Part 129 does not provide the same degree of control as does Part 121, which regulates American flag carriers. When a foreign air carrier operates within the United States, it must comply with certain basic air traffic control regulations that are applicable to all aviation activities within the United States. Outside the United States, a non-United States air carrier must comply with regulations from its own state and, if in international airspace, international standards and recommended practices. Regulations concerning aircraft airworthiness and maintenance, crewmember training and qualifications, and passenger issues such as briefings, smoking, and carry-on baggage are the responsibility of the state the air carrier comes from. However, the regulations prescribed by a foreign state normally conform with the standards of the International Civil Aeronautics Organization (ICAO). The United States is a member of ICAO, and the FAA actively participates in the formulation of ICAO standards. As a participant, the FAA strives to ensure that ICAO standards maintain the same high level as U.S. standards. Thus, the FAA has an input to the standards adopted by foreign air carriers.

INTERNATIONAL COMPLIANCE STANDARDS

Mr. **Coughlin**. When you say to the extent you can, does that refer to your limitation on resources or a limitation on your ability to inspect foreign aircraft and facilities?

Admiral **Engen**. On the latter. It is more due to the division of responsibilities and authorities under the Convention on International Civil Aviation, and bilateral agreements between nations.

Recently, we inspected the training of pilots of a South American nation, incident to some allegations that had been made. We stepped in and worked with that South American airline. It did indeed improve their training.

Mr. **Coughlin**. I would think that certainly is an assumption on the flying public's part that the aircraft that fly into and out of the United States, they meet our standards.

Admiral **Engen**. I'm sorry, sir, I can't guarantee that they will meet our standards. I don't want to decry any other nation's ability to operate, and indeed in the family of nations out there, there are some superb operators and good rules. I deal daily with my counterparts in different nations, but there are different grades of training, different grades of operations and maintenance. I am responsible for U.S. national air carriers.

Mr. **Coughlin**. Thank you.

Mr. **Lehman**. You were talking about pilot inspection and supervision but I was more or less thinking about the maintenance of the aircraft themselves.

Admiral **Engen**. I understand, sir. We do look at the maintenance facilities and are aware of that, but it is a responsibility of that nation to require its air carrier to operate to the standards that they set.

Mr. **Lehman**. All right.

Admiral **Engen**. I might add that this is coordinated through ICAO and there are international standards to which we all operate.

AIRCRAFT COMPLIANCE DETERMINATIONS.

Mr. **Lehman**. Lack of uniformity in the implementation of your safety programs was one of the problem areas discussed in the Secretary's task force review.

What guidance do you provide to your inspectors for making compliance determinations? Do you have specific instructions for inspectors to use in determining compliance of each type of aircraft?

Admiral **Engen**. We do, sir. There is an extensive group of handbooks, which are currently undergoing a major revision to make them even more useful that deal with each individual type of aircraft in explicit detail.

WORK PROGRAM GUIDANCE

Mr. **Lehman**. Have you developed data that tells an inspector the type or frequency of work needed to determine compliance and have you developed specific items to be observed and/or tested for each of the various types of aircraft that are in the air carrier fleet?

[The information follows:]

Inspectors do their inspections in accordance with the guidance provided and requirements established by National Work Program Guidelines as supplemented by the regions or a district office. These guidelines tell the inspector the type and frequency of work to be accomplished. The work is "hands on" and in all cases is designed to establish compliance or non-compliance with the Federal Aviation Regulations.

All inspectors use handbooks that are specific in providing the "how to" in performing any of the various types of inspections. The guidance provided is also arranged so that compliance with the regulations can be determined for various specialized areas such as training, dispatch, operations specifications, etc., for either certification or surveillance work. Additionally, orders are published with checklists for special efforts such as the National Air Transportation Inspection (NATI), or the current Flight Standards National Inspection Plan. Also, each inspector is trained to be an expert in the specific aircraft types with which he/she works.

INSPECTOR JUDGMENT IN DETERMINING COMPLIANCE

Mr. **Lehman**. How much judgment do inspectors have to use in determining carrier compliance with regulations?

Mr. **Broderick**. They have a wide degree of latitude within the basic boundaries outlined in the handbook, sir. Most of the work done by our inspectors is in fact discretionary and judgmental.

Mr. **Lehman**. Do you have any systematic way of determining if inspectors are doing a good job in determining compliance and if a particular carrier is being adequately inspected?

If so, how is it being done and, if not, do you believe it can or should be done?

Mr. **Broderick**. In addition to the guidelines and the minima that we have established for the national program, one has to recognize that most of the inspector's work is done alone as a single person without direct supervision.

The performance of these people has to be measured by the quality of the product they produce, the quality of their responsiveness and training, the kind of reports that they write, the thought and care that goes into them, and the compliance posture of the airlines.

Perhaps the best overall check that we have is the nationally directed program of in-depth inspections now created and will be continuing.

Mr. **Lehman**. Do you rotate the inspectors from carrier to carrier or from situation to situation so that these kind of collegial type relationships won't manifest themselves and they won't have a, perhaps, false confidence in the personal relationships they develop?

Mr. **Broderick**. That is a problem that we are alert to. We don't have a formal specific program that says "after four years and three months you must move," or something like that.

We are, in fact, for the first time this year, however, going to examine in light of the new relocation assistance program that we discussed the other day, the actual data that we have on inspector turnover at the major offices to find out what the data looks like and to see if we can spot any trends that may point to the kind of problem you allude to.

But we have no specific, hard and fast rules.

WORK PROGRAM MANAGEMENT SYSTEM

Mr. **Lehman**. Both NATI and Project SAFE found that your inspectors were spending considerable time on certification work rather than on inspections of existing carriers.

I believe your October 1985 guidelines reestablished surveillance work as a higher work priority than certification of new carriers and/or certification of existing carriers—new aircraft, operations, et cetera.

Do you have a system to determine if your district offices are now following these priorities? If so, what is it and, if not, do you intend to develop one?

Mr. **Broderick**. We do have one; it is called the Work Program Management System, and it is a centralized data base which enables us at the national level, and indeed people at the regional level or district office level, to examine the number and type of inspections that have been done against any carrier anywhere in the country.

I track that and I know other managers in the agency track it against the requirements of our work program guidelines.

Mr. **Lehman**. Do you anticipate or do you have any problems in this area in regards to your regional or district people following this type of direction?

Mr. **Broderick**. We are making, as we discussed earlier, in the airways facilities area, we are making major changes, introducing computer technology into our work force. The kinds of problems we see are similar to the kinds of problems you have anywhere in the country introducing this major new technology.

I think it is being addressed very well. It is certainly being received very well by the inspectors and support personnel.

I can tell you from personal use of the system that it works and it is effective.

NATIONWIDE INSPECTION STANDARDS

Mr. **Lehman**. Through fiscal year 1985, you had not established minimum nationwide inspection standards. Each region and district office was permitted to have its own standards for the type and frequency of inspections to be made. Many different inspection standards also resulted.

Also, as shown by GAO, there were wide variances in the number and type of inspections for similar airlines and some airport inspections fell through the cracks.

However, you now have program guidelines establishing the type of and frequency for certain surveillance work items. How were these minimums determined?

Mr. **Broderick**. They were determined by groups of what are called subject matter experts, actually the cream of the inspector crop was brought together under the auspices of the job task analysis follow-on and the Project SAFE activities described earlier, and with assistance of a contractor experienced in this kind of activity. They established these kinds of minimums.

I would stress that they are the first attempt at doing something like this, and as a result we look at it as an initial establishment, not the permanent establishment. It is a dynamic thing and we expect to change it as we gain experience.

Mr. **Lehman**. Can your current inspector work force accomplish the minimums in your program guidelines?

I will have to step out just a moment. Mr. Carr, would you ask the next question?

Mr. **Carr**. All right.

Mr. **Broderick**. Broadly speaking, the answer is on a large average basis, yes. The inspection work force is adequate to accomplish the standard program guidelines.

However, on a local level there may be staffing shortages in a particular specialty and the purpose of preparing those national programs guidelines and reporting on them at that level is to isolate and focus on those deficiencies so the deficiencies in staffing and skill mix and skill balance can be corrected.

Mr. **Carr**. On what basis will an inspector decide whether he should do more than the minimum provided in the guideline?

Mr. **Broderick**. It is the judgment that accompanies the inspector's experience and training that we rely upon to carry out that responsibility.

Mr. **Carr**. Do you have a procedure to determine if carriers are now receiving all required maintenance inspectors?

Mr. **Broderick**. The work program management system that I described breaks it out not only by maintenance but by sub-specialty within maintenance by carrier, so the answer is, yes, we do and we are using it.

PRATT & WHITNEY JT8D ENGINE

Mr. **Carr**. Last week the NTSB reportedly told you that your actions calling for increased inspections of the Pratt & Whitney JT8D engine were inadequate.

What were the major concerns of the Safety Board and what actions are you planning to take to address them?

Admiral **Engen**. Let me start out there, Tony, and I will turn it over to you for specifics.

I am interested in that comment, Mr. Chairman, by the NTSB because we have been taking action as rapidly as we can in a number of different areas with respect to these engines. We have been moving and much of what the NTSB has recommended to us has already been done.

I think that responsiveness is noteworthy.

Would you cover the major concerns, Tony, and our specific actions?

Mr. **Broderick**. Certainly. Broadly speaking, the NTSB was commenting on two notices of proposed rulemaking and commenting on the technical details contained therein.

We had been working with not only NTSB, but manufacturers and users as well as civil aviation authorities in other countries on these two fairly significant airworthiness directives, one involving the spacers in the JT8D engine, and another, combustor cans.

We had in fact completed the drafting of those airworthiness directives, the final rules, and then received the NTSB recommendations and found on comparison of the two that we had substantially addressed all of the issues that they raised.

There were three issues that we had not completely complied with, all of which we will be taking into consideration in the next months as we develop the data that we have directed be provided to us as a result of those directives.

Mr. **Lehman**. Have you conducted or considered conducting a review of the maintenance and inspection program for JT8D engines?

Mr. **Broderick**. As I indicated earlier, we conducted a special focused series of inspections on aircraft engine maintenance facilities, the JT8D being the most popular figured prominently in those inspections. We have completed the inspections but not completed the reports and analyzing data.

Over the next couple of months, as we do that, we will analyze that data and make a determination at that time as to whether or not a maintenance review board or a similar type of organizational meeting is needed.

PILOT EXPERIENCE

Mr. **Lehman**. The NTSB also is concerned about the relative inexperience of pilots employed by the fast growing regional airlines. According to the NTSB vice chairman, commuter airlines experience four times as many accidents as major carriers.

This official feels that the amount of experience and the level and type of training provided by regional operators contributes to the problem.

Do you agree that the training and experience levels of pilots of regional airlines constitutes a significant safety problem? If so, have you developed a strategy for addressing this problem?

You already answered Mr. Durbin somewhat on this question, but any part of the question that you may not have fully answered, you can address at this point.

Admiral **Engen**. Mr. Chairman, I believe I expressed myself to Congressman Durbin about as well as I could. I would just say that while experience is sought and it is good—experience is always good—there are indeed experienced poor pilots. That could be just as damaging as lack of experience.

We are looking very carefully at the issue as of today, as we are trying to work with the regional carriers in this area of pilot experience. It is an issue that needs greater visibility, I believe.

There is ongoing action with individual carriers and we are developing a strategy for addressing the problem. I would prefer not to say that you have to have X number of hundreds or thousands of hours, because of what I said initially. There are such things as experienced poor pilots.

We need to have pilots who meet the requirements and people who are thinking and quick-witted, decisive, and those are the qualities we look for.

ACCIDENT RATES

Mr. **Lehman**. There are four times as many accidents. Would you elaborate on that?

Admiral **Engen**. I think that is referring to the preliminary 1985 rates. I don't believe the safety board came out fully yet.

The major air carriers have a rate of .217 per 100,000 flying hours, and the commuter air carriers have a rate of 1.06 per 100,000 flying hours. That is the factor, I think, that Vice Chairman Goldman was talking about.

SAFETY COMPARISONS

Mr. **Lehman**. For the record, could you give us a detailed account of how the safety comparisons are with regard to passenger miles and other related data?

Admiral **Engen**. I will, and I will use the National Transportation Board figures.

[The information follows:]

	Per million aircraft miles		Per 100,000 aircraft hours		Per 100,000 departures	
	Total	Fatal	Total	Fatal	Total	Fatal
U.S. scheduled air carriers part 121 accident rates:						
1981	.0009	0.001	0.380	0.061	0.480	0.077
1982	.006	.001	.233	.047	.302	.060
1983	.008	.001	.346	.060	.457	.079
1984	.004	.0003	.190	.014	.259	.019
1985	.005	.001	.217	.051	.302	.071
U.S. commuter air carriers part 135 accident rates:						
1981	.16	.05	2.50	.73	1.69	.49
1982	.12	.02	2.08	.38	1.33	.25
1983	.07	.01	1.26	.20	.82	.13
1984	.07	.02	1.20	.40	.78	.26
1985	.06	.02	1.06	.38	.71	.25

Flight hours are typically used to calculate aviation accident rates. Passenger mile data for the requested commuter category is not available for comparison purposes.

The above data is from the NTSB press release dated 1/13/86.

COMMUTER/AIRLINE PILOT EXPERIENCE

Mr. **Carr**. Could I ask a few questions on that point, Mr. Chairman?

Mr. **Lehman**. Yes.

As I yield to Mr. Carr, I think when he is finished we will adjourn. The Admiral has to leave at noon, and we will come back at 1:30, and you will be back at 2:00?

Admiral **Engen**. Yes, sir.

Mr. **Lehman**. Mr. Carr.

Mr. **Carr**. As you know, and we all know this, these comparisons of statistics are difficult, but trying to work over some of the parameters also with Mr. Durbin's line of questioning, it occurs to me that market forces tend to select who is and who is not a pilot principally in correlation to age, I guess, and relative experience level.

It occurs to me that some of the commuters, the commuter operations, by their nature, cycle themselves more per mile distance, so that means that the commuter operator, the pilot perhaps, has broader exposure to critical phases of flight than, say, a major airline captain.

In addition, because of the short distances traveled and the nature of the equipment sometimes that is onboard, it appears that commuters generally have more exposure to weather than the major air carriers.

In addition, without prejudicing anybody, I would make an observation that I have come by way of, not scientific, to be sure, but commuter aircraft, while well-equipped today, and thank God for computer chips and a variety of other things that are making more information available in the cockpit at less weight and lower cost, nonetheless, I think it is fair to say that I think commuter aircraft generally may lag in certain instrumentation either out of maybe financial constraints that the particular operator has or indeed it is an old, time-honored tradition in aviation to go for the big market when you are going to produce a new widget, go for the big market and generally commuter or lighter aircraft get some of this stuff later—that is not always true, but that is just the way market forces are.

So folding that all together, and I think younger pilots may have some advantages that older pilots may not have just in terms of reaction time and eyesight and a variety of other things, and given cockpit workloads maybe even better than, or rate higher, they are all good, of course, and I think our pilots all over the place do a great job.

But have you done some studies that try to attempt to fold all of that together and make some meaning out of it?

I am worried that someone will take a statistic totally out of context just to prove something.

Admiral **Engen**. I am sure that is often the case. I did, when I was on the safety board, and we are continuing in the FAA, of course, to do such studies.

What you say is exactly true, because a pilot who is flying an F-27 in weather you are talking about, frequently landing and taking off, aspires to fly the DC-9 or L-1011. When that opportunity comes, he or she will move in that direction.

I see it throughout the entire industry, and I have talked to the CEOs of numerous regional airlines about this problem of how to get pilots to stay at the regional airline when offered the opportunity to fly greatly improved equipment.

I think that the rate of accidents in the commuter industry reflects that flying in the weather, as you say. I think it reflects the frequency of landings and the fact that they are operating in a tougher environment.

It is much easier, as you well know, to fly at flight level 350 on top and make one landing in four hours than it is to shuttle between Philadelphia and Scranton. It is something that we are dealing with.

I am trying very hard to bring such things to the commuter airlines as wind-shear training. Boeing has a contract from the FAA as the prime and United Airlines, Lockheed, McDonald-Douglas are all helping, to develop the training which we will provide to the regional airlines.

But it is a continuing challenge and it is something that we deal with each day. I would just say, yes, we are crunching numbers in my safety organizations; we are trying to stay ahead of it. We are trying to work with the flight standards organization to alert inspectors to things we find. It is a continuing process.

Mr. CARR. Well, my only worry is really prompted by the phraseology of the question that comes to you and apparently some comments made by NTSB, and also their impact on the flying public who really don't have the ability to evaluate that statistic.

I guess I really want to urge you to have some of your number crunchers try to see what they can do to come up with a meaningful index of these things, something that will see if—take these factors into account and really allow us to make some relative judgments about what is happening there, and hopefully reduce some of the over-simplified stuff that we see in the news media, because I think it is really adverse to understanding what is really going on in aviation, and that is for the professional as well as the non-professional.

Admiral ENGEN. Thank you, Mr. Carr.

Mr. CARR. You have research money, maybe you could do theoretical research.

Admiral ENGEN. We are doing so and I would like very much to come up at your convenience and sit down and tell you, show you what we have done in safety matters. Since I have become Administrator, I have moved safety matters directly under me and tasked that organization with some sweeping examinations of different areas.

Mr. CARR. Okay.

Admiral ENGEN. We are productively moving ahead. I would like to come and talk to you.

Mr. CARR. Thank you.

Mr. LEHMAN. We will adjourn the meeting until 1:30 and we will work around the questions so we can have the Admiral here for certain questions we want to address to you.

AFTERNOON SESSION

CIVIL PENALTY ACTIONS

Mr. LEHMAN. We will reconvene the Subcommittee.

Information gathered by GAO shows that you took 63 civil penalty actions in 1985, down from 113 in 1984 and 111 in 1983. What accounts for this decreasing trend in civil penalty actions?

[The information follows:]

The GAO report, which states that the FAA initiated only 63 civil penalty actions against air carriers in 1985, appears to be erroneous. FAA regional offices have provided data indicating that, in 1985, the FAA initiated 220 civil penalty actions against air carriers. FAA has requested the data utilized by GAO for comparative purposes.

Mr. LEHMAN. Starting in 1985, you initiated large civil penalty actions against at least four major airlines—American, Western, Continental, and Eastern. Are the larger carriers complying less with your regulations than in the past and are you allocating more of your inspector resources to the larger carriers?

Mr. BRODERICK. I think, Mr. Chairman, of necessity we allocate more resources to larger carriers because we try to allocate resources where the need is greatest, they have more airplanes, more operations, more facilities, and therefore should get inspected more, and I think that is in fact reflected here.

I hasten to add that there is not a direct relationship between the size of a carrier and the number of inspection resources we apply. Basically, that is because of the fact that the larger you get the more sophisticated and easy to use the control and information systems become in the airline. It is easier to inspect a large carrier than a small carrier.

EASTERN'S SAFETY VIOLATIONS

Mr. LEHMAN. With more than 78,000 violations, why wasn't Eastern grounded? You have grounded smaller carriers for fewer violations in the past, haven't you?

Mr. BRODERICK. The number of violations that Eastern had is reflected by a violation times every flight that that violation existed. Being a large carrier, it had the opportunity, therefore, to build a large number of violations. It is not the number of individual flights that the rules are violated that is important to us in terms of deciding whether or not to ground a carrier. It is the seriousness of the violations and the nature of the violation that is important.

Mr. LEHMAN. It is unlikely that these 78,000 violations all started to occur at the time of your special three-month review. Why weren't these violations identified during your routine inspections, and did it in fact take passenger and employee complaints to trigger your investigation?

Mr. BRODERICK. To answer the second part of the question first, passenger or employee complaints are always monitored and factored into the FAA ongoing valuation and surveillance of any carrier. So if there were complaints, those were a factor, although not necessarily a deciding factor. In the case of Eastern, I know it wasn't a deciding factor. In terms of why the violations weren't detected earlier, we don't have a good explanation for that except to say three things: We will be doing, as soon as we wrap up the Eastern enforcement case, an evaluation ourselves to try and answer the question.

Two points important to recognize is that the depth and breadth of an in-depth inspection is coupled with different sets of eyes looking at a carrier, and it would be expected to turn up more than the people looking at it every day.

Mr. **Lehman**. Do you depend on so-called whistle-blowers for your information that would create these kinds of situations?

Mr. **Broderick**. They are not our sole source of information but we certainly do use the information they provide, and welcome information from any source on a safety issue.

Mr. **Lehman**. Maybe for the record you can give us an idea of what role the so-called informers play.

Mr. **Broderick**. We will be happy to.

[The information follows:]

We consider the role of the informer to be an important part of our overall safety program. To accommodate personnel desiring to report on safety-related issues, we have established a safety telephone hotline. The information received is reviewed, evaluated and an investigation initiated if necessary.

INSPECTION OF MAJOR CARRIERS

Mr. **Lehman**. Aren't you currently conducting an in-depth investigation of another air carrier? Which airline, and are you finding any significant violations that the public should be made aware of?

Mr. **Broderick**. Mr. Chairman, we have a program that was initiated in the first quarter of this fiscal year which will continue indefinitely to inspect all major carriers on approximately a two- or three-year cycle, once we get the program fully in motion. In the second quarter of this year, we are going to initiate or conduct inspections at airlines including Delta, Pan American, Transamerica, Flying Tiger, Southwest and United. To date we haven't found any unusual violations and certainly none that we would think are important enough to bring to the attention of the public at this time.

Mr. **Lehman**. In 1984 your investigators recommended almost $3.5 million in fines, but only $195,420 was levied. Is this correct? If so, why?

Mr. **Broderick**. I am not sure if these data are accurate, and I don't know what the source of it is. We can supply an analysis of it for the record. What I will say is that we are aware of the fact that in years past we had a policy that was fairly decentralized in terms of proposing and then adjudicating fines. The administrator has now drawn that into Washington and he personally, along with myself and the chief counsel, are all involved in reviews of any significant violations. And this kind of reduction from proposal to actually levied fine is not the way we are operating today or we intend to operate in the future.

Mr. **Lehman**. Would you provide for the record a listing of fines recommended, fines asessed, and fines collected for 1984 and 1985.

[The information follow:]

The FAA does not have authority under Section 901 of the Federal Aviation Act of 1958, as amended, to "assess" fines for violations of the Federal Aviation Regulations. Rather, FAA is authorized to compromise civil penalties for violations of its aviation safety regulations. FAA regions have provided data which indicate the following:

1. In 1984, FAA initiated 158 civil penalty actions against air carriers, seeking $778,150 in civil penalties; $454,436 was collected.

2. In 1985, FAA initiated 220 civil penalty actions against air carriers, seeking $3,893,895; $2,257,954 was collected.

It should be noted that it is not uncommon for a case to be closed in a different year than which it was initiated. Consequently, civil penalties collected in 1984 and 1985 may be for cases initiated in prior years.

AVIATION SAFETY ANALYSIS SYSTEM

Mr. **Lehman**. You are developing the Aviation Safety Analysis System (ASAS) to meet many of the information needs within the Office of Aviation Standards. As part of ASAS, subsystems are being developed to meet the needs of your airline inspectors concerning airline operations, enforcement actions, and other matters. Are you having any problems with the ASAS equipment located in your district offices? If so, is there a formal plan, with milestones, for correcting these deficiencies?

Mr. **Broderick**. Mr. Chairman, the problems that we are having with ASAS are no different than the problems as we discussed this morning of introducing new computer technology where it didn't previously exist. Software difficulties that we had with the Work Program Management System have largely been overcome. We are working now to investigate some capacity problems on some of the local work stations.

Data communications and administrative computer system capacity are two other problems that we have had. We are this year letting a contract to, we hope, solve the data communications problem. We haven't yet solved it but are working on the administrative computer system capacity problem. The biggest problems center around training and lack of equipment. When I say lack of equipment, it is the speed with which we can equip local offices with additional equipment that is holding back the program.

Mr. **Lehman**. To interface the equipment with your main office or other offices?

Mr. **Broderick**. Or with the central computer facility in Oklahoma.

WPMS AND EIS TRAINING

Mr. **Lehman**. How is training being provided in the use of the Work Program Management System (WPMS) and the Enforcement Information System (EIS), and what steps have been taken to measure the effectiveness of this training?

Mr. **Broderick**. What we are trying to do is use three different approaches to train as appropriate. When we deliver an initial system to the field, we provide formal initial classroom training at central locations within each region. We also have used the approach of using centralized training at the FAA Academy, but I think probably our best success is going to be with development of self-instructional materials that people can effectively use in a sort of computer-based learning environment.

SURVEILLANCE ADEQUACY OF AIR CARRIERS

Mr. **Lehman**. WPMS is used to ensure that all inspections will be in a uniform format and are accounted for. Based on the results of the first quarter of this fiscal year, what observations can be made concerning the adequacy of your surveillance of air carriers? Were all the planned inspections accomplished?

[The information follows:]

The Work Program Management System (WPMS) is an automated data processing system that is capable of tracking work activities required by national program guidelines. In this regard, WPMS is an accounting system that permits the Federal Aviation Administration to ensure that an adequate surveillance program is planned and executed. Data for the first four months of the fiscal year indicate that approximately twenty percent of the planned work program was accomplished during those months. This rate of work accomplishment is consistent with the period of data collection, i.e., winter, and with the fact that current national program guidelines were first implemented in October 1985.

DOD NOTIFICATION ON SAFETY VIOLATIONS

Mr. **Lehman**. Last December an Arrow Air aircraft crashed and burned at Gander, Newfoundland (Canada), killing all 248 U.S. military personnel onboard. It has been reported that you were aware of a number of problems concerning Arrow's operations before this crash and that you had concluded that Arrow's expansion plans should be restricted pending corrective action on a number of problems that surface during your "white gloves" inspection in 1984. It is difficult to understand why the Military Airlift Command (MAC) was not advised of these problems. Could you explain how this happened and what actions you are taking to correct this situation?

Mr. **Broderick**. At the time we were not providing the Military Airlift Command with the volume of information that we are presently providing them. We have participated in the DOD task force which recently completed its work on the investigation of military charter operations. We are rewriting our order and they are rewriting their internal procedures on precisely what kind of information we exchange and when we do it.

We literally have daily contact now. My special assistant is in fact a DOD liaison employee from the Pentagon, an Army colonel. We have a lot of interaction at the working level. Dozens of military people are in the FAA building and within a couple of weeks MAC will establish a formal military liaison position in my organization at the working level, to provide a conduit for information on a computer for information on any carrier that MAC or the Military Traffic Management Command uses and would care to inquire about.

Mr. **Lehman**. A recent GAO report indicates that two charter airlines continued to carry military personnel after your inspectors had found numerous violations and urged that they be grounded. Why wasn't the Department of Defense notified in these two instances?

Mr. **Broderick**. At the time, Mr. Chairman, we were not providing the military information on alleged violations which we had not finally made a determination on within the FAA. We do so now and will be, as I indicated earlier, formalizing that procedure.

Mr. **Lehman**. Are you now immediately notifying DOD of all safety violations regarding MAC carriers?

Mr. **Broderick**. Yes, of all significant safety violations.

INSPECTION OF MILITARY CHARTERS

Mr. **LEHMAN.** After the crash, Secretary Dole ordered a special FAA investigation of about 25 of the more than 40 airlines flying charters for the Defense Department. How did you select the military charter airlines that you will be inspecting?

Mr. **BRODERICK.** I am not sure of the numbers but what we did was we went to the Military Airlift Command and we asked them for a list of all the carriers conducting military charters. We took off the list carriers we knew were scheduled for near-term special inspections, the in-depth inspections that are part of our ongoing programs.

We knew we would catch all the airlines eventually, but we accelerated the schedule for special inspections for the remaining charter carriers and did those in the last few months. We are just about completed with that effort and need to analyze the data and report on it.

Mr. **LEHMAN.** Are there charters that only carry military?

Mr. **BRODERICK.** Yes, sir.

Mr. **LEHMAN.** There are charters that carry military and also tourists.

Mr. **BRODERICK.** That would not be called a charter but they might buy blocks of space on any flight that you or I might travel on.

Mr. **LEHMAN.** For instance, Arrow Air, they run charter flights other than military?

Mr. **BRODERICK.** Yes, sir.

Mr. **LEHMAN.** There are other charters that fly only military, and I imagine there are charters that fly no military but fly everybody else. I was wondering whether you pay as much attention to an outfit that flies charter flights for tourists or business people as you would those that fly for just military or partly military.

Mr. **BRODERICK.** Yes. In fact, we do. The focus on the military charter was merely a special focus inspection to look at that segment of the industry. But we don't treat them any different from people who do not do any military business.

Mr. **LEHMAN.** You don't have a higher level of concern just for that particular type of charter.

Mr. **BRODERICK.** I think that would be a bad policy. Civilians travel on those airlines too.

Mr. **LEHMAN.** Will these inspections go beyond your normal procedures, and when can we expect interim reports on each airline and a final report?

Mr. **BRODERICK.** A few interim reports or a few final reports actually on each airline, on several of the airlines, are out now and the rest will be coming out within the next few months and a final report should be ready sometime this summer. They use exactly the same methodology and approach as our in-depth inspection of any other airline as I indicated earlier.

COMMENTS ON H.R. 4014

Mr. **LEHMAN.**, What is your position on H.R. 4014, which prohibits any aircraft from transporting military personnel unless that plane and aircrew have been inspected and approved by an examiner from the MAC, or Military Traffic Management Command, no more than 48 hours before departure?

Mr. **Broderick**. I think we run into several practical difficulties on that. And although a formal departmental position hasn't yet been established, I could comment on a couple of the practical problems. One is it is very difficult to predict where at any given time in advance an airplane is going to be 48 hours in advance of a particular flight with charter airlines because of the changing demands on the airline, and that is especially true of the crew.

So, practically speaking, I am not sure how one could achieve this. Perhaps the most serious concern is the implication that there should be a different level of safety applied to these kinds of carriers. These are carriers that carry civilian folks as well as military. As a matter of fact, by the military regulations, they must have only a minority of military business. The vast majority of their work, typically, 75 or more percent, is civil work, so I wouldn't see any reason to apply special procedures to them. If we are doing our job right, they should be as safe as any other carrier.

Mr. **Lehman**. The motivation for this legislation was the concern that FAA was not performing at the level that they should be. Do you have the kind of people that—if this legislation passed, could provide the people to manage this 48-hour type of program?

Mr. **Broderick**. Certainly, if the legislation were to pass, we would have to find a way to accommodate it, but it would be a strain on resources. But I might comment that I think the concern that the FAA was not doing its job with regard to Arrow is misplaced and perhaps the source of that concern is less than complete media reports rather than his review of the actual surveillance and inspection records and the accident investigation itself. I know of no significant shortcomings in our surveillance of Arrow in the periods from mid-1984 up to the time of the accident that have been pointed out to us.

Mr. **Lehman**. The staff pointed out that it would be the military people doing the inspections and all you would have to do is coordinate your efforts with them. They would have to furnish the personnel to do the actual inspection.

Mr. **Broderick**. Presumably there would be a significant amount of training and liaison burden imposed on the FAA which we are not presently prepared to do.

Mr. **Lehman**. You would have to interface with them at that time.

Mr. **Broderick**. I think it would be an application of a duplicate standard for civil transportation that I haven't seen the need for.

Mr. **Lehman**. What we are going to do is to move over to page 34 and begin there and then when the Admiral comes back we will start back on page 28. Before we do that, I will yield to Mr. Coughlin.

Mr. **Coughlin**. Mr. Chairman, I think as I look here the questions I have might better wait until the Admiral gets back, so why don't we proceed.

ENFORCEMENT

Mr. **Lehman**. As soon as the Admiral comes back, if you want me to I will be happy to yield to you.

In the fiscal year 1985 Supplemental Appropriations Act Congress directed the Secretary to reexamine and, where appropriate, revoke, suspend, or modify the certificate of public convenience and necessity or foreign air carrier permit of any air carrier that has violated our laws or regulations pertaining to the illegal importation of controlled substances or has failed to adopt measures to prevent the importation of illegal drugs into this country aboard its aircraft. To what extent has this authority been used?

Mr. **Broderick**. To my knowledge it hasn't been used to revoke any certificates. I know that the Office of the Secretary has been working in establishing relationships, both internally with ourselves and the DEA and the Customs people, to implement this legislation.

DRUG TRAFFICKING

Mr. **Lehman**. A recent magazine article indicates that 18 percent of the cocaine shipments into this country arrive on commercial airlines. The article also states that Customs officials routinely find large caches of cocaine aboard flights from Peru, Colombia and Bolivia. With this percentage of cocaine coming in on commercial airlines, shouldn't you be making extensive use of the authority provided you last year?

Mr. **Broderick**. As I indicated, the authority provided last year was authority provided to the Secretary regarding public convenience and necessity certificates. The FAA has an extraordinarily good relationship with the Drug Enforcement Agency and the Customs people. We work with them literally on a daily basis on any investigations that bear on drug trafficking.

We have our own investigation and enforcement authority in cases where people operate civil aircraft knowing there were drugs onboard or carried in the aircraft another way, and the FAA regulations provide proper enforcement and sanctions for this.

Mr. **Lehman**. The article referred to a near-record shipment of 3,227 pounds of cocaine that was found in January aboard a cargo jet owned by Avianca, the Colombian national airline. Was any action taken as a result of this?

Mr. **Broderick**. To the best of my knowledge, that is still under investigation by DEA and Customs.

LANDING RIGHTS OF FOREIGN CARRIERS

Mr. **Coughlin**. Mr. Chairman.

This is a pretty flagrant instance. It is taking this long to investigrate it?

Mr. **Broderick**. I don't know that the investigation is closed. To the best of my knowledge, it is still open. But this is a foreign carrier and this is not a matter that I can see would come under some violation of the Federal aviation regulations.

Mr. **Coughlin**. You have nothing to do with the landing rights of foreign carriers?

Mr. Broderick. The FAA doesn't grant landing rights. Those are granted in the bilateral air tranportation agreements negotiated between the State Department and each country.

Mr. Coughlin. Thank you, Mr. Chairman.

DRUG ENFORCEMENT

Mr. Lehman. This supplemental appropriation language says that the Secretary shall have the right to suspend a foreign aircraft permit of any air carrier.

Mr. Broderick. If in fact the investigation demonstrates that these people have violated the law or committed an offense that is addressed in the public law that we are discussing, then in fact the Secretary would have the authority to revoke the foreign air carrier permit, and presumably would institute proceedings to do so. To my knowledge, this case has not yet been closed.

Mr. Lehman. You wouldn't have to wait for the State Department?

Mr. Broderick. No, but let's look—the fact is that people other than the operator of the airline and the owner of the foreign air carrier permit might be responsible for this, and this is the reason for making sure whose fault it is that the drugs or whatever contraband were found on the aircraft.

Mr. Coughlin. Mr. Chairman.

3,227 pounds of cocaine defies credibility when, if you recall, they even knew the people who carried it on and were carrying it off.

Mr. Broderick. I would be happy to provide as complete a set of information as we have for the record. We would just get it from the law enforcemnet people that are doing the investigation, sir.

Mr. Coughlin. Thank you.

[The information follows:]

U.S. Customs Service is the lead agency in preventing transportation of illegal contraband. Federal Aviation Administration's involvement would be to take action including certificate action against crewmembers who knowingly transport illegal contraband.

Mr. Lehman. Last August it was reported that during the past 10 months nearly 10,000 pounds of marijuana arriving on Air Jamaica flights had been seized. Has any action been taken against Air Jamaica?

Mr. Broderick. To my knowledge, action has not yet been taken, and those cases too are still under investigation.

NAS PLAN COST

Mr. Lehman. Getting to the NAS Plan. In December 1981, your agency published a comprehensive National Airspace System (NAS) plan to modernize and improve air traffic control facilities. Last year you indicated that the 1981 cost estimate of $11.7 billion for this plan was still valid. What is the current estimated cost of the NAS Plan?

Mr. Frisbie. Our current estimate is $12.2 billion, which is the $11.7 billion estimate we made in 1985 plus an additional $550 million, which we estimate to be the cost of full implementation of the terminal doppler radar program which will be added to the NAS Plan.

Mr. **Lehman**. There are no inflationary additions so far.

Mr. **Frisbie**. No, Mr. Chairman. Inflation is there in the sense that we use then—year dollars in making computations, so it is built in.

Mr. **Lehman**. Given the reduced rates of inflation in recent years, has the NAS Plan cost estimate been recomputed using a reduced inflation factor? If so, what is the new factor and should this not have reduced the estimated cost of the NAS Plan?

Mr. **Frisbie**. This is the other side of that same coin, Mr. Chairman. There have been, indeed, reduced rates of inflation from the time we originally made the estimate. Unfortunately, we have also pushed a fair amount of work out in front of us which tends to offset the savings from inflation.

Mr. **Lehman**. When is funding of the NAS Plan expected to be completed, and when are the major projects in the NAS Plan expected to be fully operational?

OPERATIONAL DATES FOR NAS PLAN

Mr. **Frisbie**. Mr. Chairman, the funding of the plan is still projected to end in fiscal year 1992, but that is predicated on receipt of cumulative appropriations of $12.2 billion through that point in time. I have a list of the major projects in the program, Mr. Chairman, and the dates when we would expect those to be operational, if you would like me to furnish those for the record.

[The information follows:]

	Last unit
Modern Host Computer	1987
Voice Switching and Control System (VSCS)	1992
Advance Automation System (AAS)	1994
Area Control Facilities (ACF)	1998
Flight Service Automation System (FSAS)	1992
Central Weather Processor (CWP)	1993
Automated Weather Observing System(AWOS)	1992
Microwave Landing System (MLS)	1998
Mode S	1994
Terminal Radar (ASR)	1990
Weather Radar	1993
Loran C	1990
RML Replacement	1991
National Airspace Data Interchange Network (NADIN) IA	1986
National Airspace Data Interchange Network (NADIN) 2	1991
Radio Control Equipment (RCE)	1992
Remote Maintenance Monitoring System (RMMS)	1991

NAS PLAN PROJECTS

Mr. **Lehman**. Would you update for the record the listing showing the status of NAS plan projects which was included on pages 272 and 273 of last year's hearing?

[The information follows:]

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Status of Major NAS Plan Programs

(Except as noted, funding levels are for F&E only and are in Millions of Dollars)

	FY 83 - 92 Cost		Initial Delivery		
	1983 NAS Plan	1986 Estimate 1/	1983 Plan	1986 Estimate 1/	Remarks
MSA Projects					Reason for cost increases over 10 percent and any schedule slippage.
HOST	316.4	280.8	1986	1986	
AAS	2,069.9	2,609.3	1990	1991	Cost: Increase in spares, additional sector suites, and inflation. Schedule: During the Design Competion Phase additional requirements were added, such as color and AERA I, resulting in a 6 month extension.
FSAS	270.0	230.7	1984	1985	Schedule: Delay due to contractor software development problems, now overcome.
AWOS	160.7	133.0	1985	1988	Schedule: Addition of AWOS Demonstration program and inclusion into the 8a pilot program.
VSCS	258.6	341.2	1988	1989	Cost: Increase in number of operating positions, redundancy, additional ACF requirements. Schedule: Delay in awarding of development contract.
MLS	1,226.0	764.9	1985	1987	Schedule: Delay in Delivery of hardware by contractor.

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Status of Major NAS Plan Programs

	FY 83 - 92 Cost		Initial Delivery		
	1983 NAS Plan	1986 Estimate 1/	1983 Plan	1986 Estimate 1/	Remarks
	(Except as noted, funding levels are for F&E only and are in Millions of Dollars)				
NSA Projects					
MODE S	487.2	456.5	1987	1988	Schedule: Prototypes added to reduce risk.
ASR-9	436.8	472.8	1985	1987	Schedule: Delay in completion of Critical Design Review. Additional delay due to contractor problems in obtaining critical parts.
Fleet Conv	343.5	120.6	--	--	
RML	264.3	264.3	1984	1986	Schedule: Delay in contract award and additional time in proposed delivery schedule.
CWP	76.1	96.7	1990	1992	Cost: Additional cost to develop and test first article. Schedule: Development program restructured.
3-D Radar	565.7	485.2	1988	1990	Schedule: FAA/USAF coordination and delay in setting up program office.

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Status of Major NAS Plan Programs

	FY 83 - 92 Cost		Initial Delivery		
	1983 NAS Plan	1986 Estimate 1/	1983 Plan	1986 Estimate 1/	Remarks
(Except as noted, funding levels are for F&E only and are in Millions of Dollars)					
TSARC Projects					
NARACS	70.2	82.4	1983	1983	Cost: Added additional radio links.
NADIN	50.9	53.5	1982	1982	
RCE	87.4	203.0	1986	1989	Schedule: Due to additional RMM requirements. Cost: Added RMM to RTR's and RCAG RMS.
ASDE	83.2	107.5	1987	1988	Schedule: Requirements and commercial system evaluation. Cost: Quantity increase 21 vs 30.
ICSS	55.1	89.7	1983	1983	Cort: Unanticipated increase in installation support.
DF	77.9	103.4	1982	1982	Cost: Change in acquisition strategy.
TCAS	38.1 2/	56.2 2/	N/A	N/A	Cost: Introduced LIP demonstration program.
RMM	279.9	229.9	1980	1980	

2/ R,E&D Funding Only; No F&E funding involved.

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Status of Major NAS Plan Programs

(Except as noted, funding levels are for F&E only)

	FY 83 - 92 Cost		Initial Delivery		
	1983 NAS Plan	1986 Estimate 1/	1983 Plan	1986 Estimate 1/	Remarks
Supplemental List					
DAKC	25.0	25.0	1984	1984	
Repl. BRITE	19.8	64.1	1985	1987	Schedule: Delay in procurement by USAF. Cost: Quantity increase 95 vs 319.
NDB	44.2	34.8	1985	1986	Schedule: Delay in contract award.
NEXRAD	250.5	215.5	1987	1988	Schedule: Underestimated time for prototype evaluation.
SEI	0	676.1	N/A	1984	Cost: Approved engineering and integration contract.
TPX-42	40.0	40.0	1985	1987	Schedule: Delayed to combine ARTS IIA with TPX-42 replacement. Also delay in award of contract.
VORTAC	146.6	189.1	1981	1981	Cost: Added 70 VOR/DME establishments and some relocations/improvements.
ACF	281.8	34.9	1992	1993	Cost: Difference now beyond 1992. Schedule: Coincident with advanced auto. schedule.
Comm. Fac Consol.	174.7	76.4	1985	1985	

1/ Current Estimate -- 1986 Plan not yet published.

NAS PLAN IMPLEMENTATION AND SAVINGS

Mr. **Lehman**. Last year it was indicated that reduced funding levels would preclude your proceeding with the NAS Plan as it was presently structured. Your fiscal year 1986 appropriation after sequestration and your 1987 budget request represent significantly reduced levels. What impact is this going to have on your NAS Plan implementation schedule and program benefits?

Mr. **Frisbie**. Mr. Chairman, we are trying, and I think largely succceeding, to keep the major projects on schedule. We have already been appropriated $4 billion and that has gone a long way to get us going. The most critical modernizations, the terminal radar replacements, airport surface detection equipment replacements, and establishments communications equipment, virtually all of our solid state replacements are proceeding as planned. We have also taken some steps this year to try to minimize schedule and benefits impact of the reductions by taking several projects off full funding so that we can move forward with more equipment procurement.

Mr. **Lehman**. Have you analyzed the NAS plan projects in terms of their savings and safety benefits to enable you to make informed project trade-off and stretch-out decisions?

[The information follows:]

Saving and safety benefits of NAS Plan projects have been identified. Proposed trade-off and stretchout decisions are looked at with consideration to these benefits and to interproject functional dependencies.

Mr. **Lehman**. Would you provide for the record the lower priority projects that you have decided to eliminate or stretch out?

[The information follows:]

Significant lower priority programs that were stretched-out:
- Airport Traffic Control Tower Replacement
- VOR Establishment
- Modernize Unmanned Buildings
- Modernize Airport Cable Loops
- Improve Power Systems
- Radar Microwave Link Replacement/Expansion
- Airport Surveillance Radar Establishment
- Modernize Airport Traffic Control Tower
- Direction Finder Establishment
- National Radio Communications System
- NADIN Enhancements
- Automated Weather Observation Equipment (Towered Airports)
- Establish Air Traffic Control Radar Beacon System
- Remote Maintenance Monitoring System

NAS PLAN SAVINGS

Mr. **Lehman**. What is the current estimate of the savings to be achieved by implementing the NAS Plan and how does this compare with the estimates developed in prior years, beginning with the estimate provided with the original NAS plan?

Mr. **Frisbie**. Mr. Chairman, the benefits for the most recently published NAS plan are $18.3 billion through the year 2000. You will recall that those benefits are the benefits which will accrue in terms of reduced operating costs in the FAA and there are obviously a substantial amount of benefits that will accrue to the users of the system. We have not yet published a 1986 NAS Plan and as a result have not published a new estimate. We are holding off the publication of the 1986 NAS plan so that we can dovetail it with the Administration's request for legislation with regard to the Trust Fund.

However, to get to the heart of your question, the original NAS Plan envisioned a $24.5 billion FAA benefit through the year 2000. In 1983 that was revised downward to $21.5 billion, in 1984 it was revised down to $19.9 billion. I told you that 1985 was $18.3 billion, and if we were to make that estimate today we think it would be about $16.5 billion through the year 2000.

Mr. Lehman. Why is it going down?

Mr. Frisbie. It has gone down for a number of reasons. One of them had to do with the decreased estimates for air traffic activity and certainly these benefits are tied to productivity, and therefore if there is a decrease projection of air traffic it reflects back into the way we compute these numbers. But we also think that the way we have constructed this benefits picture substantially understates what the benefits really are.

For example, the useful life of the equipment that we introduce in the '90s will last 10 or 20 years. We have only computed those benefits to 2000, so I think an economist would say we have a tremendously beneficial program.

Mr. Lehman. You cut down the amount of bookkeeping.

Mr. Frisbie. Yes. We made the original construct and are trying to be faithful to that construct.

Mr. Lehman. Would you provide for the record an estimate of the impact that the hiring of 960 additional controllers will have on the savings attributable to the implementation of the NAS plan?

[The information follows:]

The hiring of 960 additional controllers will annually reduce the savings attributable to the implementation of the NAS Plan by $33 million, and thus reduce the benefit side of the ledger (thru 1992) by $182 million.

NAS PLAN MASTER SCHEDULE

Mr. Lehman. Have you developed a master schedule for the NAS plan, and, if so, what is the baseline year against which you are measuring your progress?

[The information follows:]

The NAS Plan is reviewed, updated and published annually, and contains master schedules for implementing the NAS Plan projects. The 1985 NAS Plan is the current base against which progress is being measured. This base is adjusted to coincide with the most current version of the NAS plan.

PERSONNEL FOR NAS PLAN

Mr. Lehman. Do you really have adequate personnel in your regions to ensure that as your major systems, such as the Host computer are delivered, you can get them installed and in operation in a timely and effective manner?

Mr. Frisbie. The answer to that is no, Mr. Chairman. We have taken a look at that staffing, which is what we call the facilities and equipment staffing, and we don't think that we have enough people to do that job. We have proposed to contract for that level of work and we are working within the Department of Transportation to fashion such a contract right now.

Mr. Lehman. How did you get so far ahead of the people problem?

Mr. Frisbie. How did we get so far ahead of the people problem? We had seen that this problem was coming, and frankly, Mr. Chairman, we thought about doing this with in-house personnel. That doesn't seem to be feasible, because we just have a big bump in the personnel requirements, and that will go down rapidly after that point. So we think that doing this under contract, and the nature of the work lending itself to contract, is the way that we should go.

Mr. Lehman. How many people are we talking about?

Mr. Frisbie. We are talking about 800—let me see if I have this right. We would need about 800 people for a short period of time.

TEST AND EVALUATION POLICY FOR NAS PLAN

Mr. Lehman. What is the status of your efforts to issue and implement an operational test and evaluation policy for NAS plan projects, and given the advanced stages of many of the projects, what effect can this policy be expected to have on the NAS plan?

[The information follows:]

On December 31, 1985, the Associate Administrator for Development and Logistics signed the ADL Test and Evaluation Policy Action Notice. This policy requires that a systems verification process be implemented for all NAS Plan Projects.

Compliance with this policy will ensure that interdependent NAS Plan projects, which are being deployed over a 10-year period, will satisfy the system-level requirements for interoperability, utility, and performance, and thereby smooth the implementation of NAS Plan projects.

In addition, FAA has an Independent Operational Test and Evaluations group which oversees all major system acquisitions to provide an independent assessment of the readiness of a project to transition into the production phase.

TSARC APPROVAL

Mr. Lehman. For each of the 11 major systems in the NAS plan, please provide the dates the systems were approved by DOT's Transportation Systems Acquisition Review Council (TSARC) at each of the four key decision points required by OBM Circular A-109.

[The information follows:]

Program	Initial KDP number	TSARC approval date	Following KDP number	TSARC approval date
Voice Switching and control system	3	February 27, 1985	4	TBD
Central weather processor (CWP)	3	January 16, 1985	4	TBD
Advanced automation system	3	April 6, 1983	4	TBD
Radio microwave link	4	March 24, 1984	Not Required	
Microwave landing system	4	April 8, 1983	do	
Flight service station automation	4	August 7, 1981	do	
Mode S	4	March 7, 1983	do	
Automated weather observing system	3	March 29, 1984	4	December 12, 1985
Host computer system	3	March 11, 1983	4	July 19, 1985
Aircraft fleet conversion	4	July 19, 1985	Not Required	
Airport surveillance radar (ASR-9)	4	May 13, 1982	do	
Long range radar program (3-D) (LRR)	[1] 4			

[1] The 3-D KDM No. 4 is currently in draft coordination.

MAJOR SYSTEMS COSTS AND COMPLETION DATES

Mr. **Lehman**. In addition, for each of the major systems, please provide the estimated costs (F&E and associated R&D) and the estimated completion dates (i.e., when the systems will be fully operational) at the following points in time: (1) when the NAS plan was first issued, (2) at each of the key decision approvals, and (3) currently.

[The information follows:]

Estimated cost and initial system delivery dates are provided in the following table for each of the NAS Plan MSA projects starting with the 1983 NAS Plan, and including key decision points 3 and 4, and current estimates.

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NAS Plan MSA Project	FY 1983 to FY 1992 Estimated Cost					Initial System Delivery			
	Funding Contegory	1983 NAS Plan	KDM-3	KDM-4	1986 Estimated	1983 NAS Plan	KDM-3	KDM-4	1986 Estimated
Host	F&E	316.4	316.4	349.2	280.8	1986	1986	1986	1986
	R,E&D	130.4	130.4	128.9	125.0				
AAS	F&E	2,069.9	2,069,9	-	2,609.3	1990	1990		1991
		474.0	474.0	-	441.9				
FSAS	F&E	270.0	-	269.3	213.4	1984	-	1984	1985
	R,E&D	61.4	-	54.2	43.2				
AWOS	F&E	160.7	172.2	133.0	133.0	1985	1984	1988	1988
	R,E&D	5.1	5.7	2.0	7.8				
VSCS	F&E	258.6	341.2	-	341.2	1988	1988		1989
	R,E&D	28.6	83.3	-	87.4				
MLS	F&E	1,226.0	-	1,226.0	744.7	1985	-	1985	1987
	R,E&D	101.1	-	101.1	103.9				
MODE S	F&E	487.2	-	487.2	456.5	1987	-	1986	1988
	R,E&D	72.2	-	72.2	69.5				
ASR-9	F&E	436.8	-	370.7	477.7	1985		1985	1987
	R,E&D	0	-	0	0				
Fleet Conversion	F&E	128.7	N/A	122.7	127.7	1985	N/A	1986	1987
	R,E&D	10.0	N/A	10.0	9.5				
RML	F&E	264.3	-	264.3	264.3	1984	-	-	1986
	R,E&D	0	-	0	0				
CWP	F&E	76.1	90.1	-	96.7	1990	1992	-	1992
	R,E&D	72.6	75.4	-	58.2				
3D-RADAR	F&E	348.0	-	-	369.5	1988	-	-	1990
	R,E&D	0	-	-	0				

UNDERFUNDING

Mr. LEHMAN. Do you believe that any of these systems have been underfunded? If so, provide a detailed explanation of the effect of such underfunding on the system.

[The information follows:]

For those systems now either partially or fully under contract, namely: HOST, FSAS, AWOS, MLS, MODE S, ASR-9, and RML, sufficient resources are available for program implementation. Regarding those systems not yet under contract, our current estimation of resources required indicates that none are essentially underfunded. However, until such time as all industry bids are received and evaluated, and after the competitive nature of the market place has been brought to bear, the question of underfunding cannot be unequivocably answered.

SEIC ANALSIS

Mr. LEHMAN. Has the SEIC completed its Level 2 analysis of the NAS Plan and, if so, have the plans been published for the integration of the various project subsystems, and have the results of this analysis caused any rescheduling of projects?

[The information follows:]

The SEI contractor is now completing the Level 2 design of NAS Plan programs. The resulting system specification will be baselined by September 1986 and provides the overall functional allocation to NAS programs/subsystems. The results are not expected to cause rescheduling of projects. If discrepancies exist between the system specification and subsystem (project) specifications, the FAA and SEI contractor will develop project compliance plans to resolve discrepancies. The analysis, thus far, has not indicated a large number of discrepancies.

MODE-S

Mr. LEHMAN. Will Mode-S be available in the timeframes originally anticipated in terms of its interface with ASR-9? If not, what are the workaround solutions being considered?

[The information follows:]

Yes. When a site is to receive both Mode S and ASR-9, the ASR-9 was planned to arrive first. That order is preserved in the current schedules for both Mode S and ASR-9.

ASR REPLACEMENT PROGRAM

Mr. LEHMAN. As part of the Airport Surveillance Radar (ASR) replacement program, you plan to install 56 of the 101 ASR-9s currently being procured at existing ASR-7/8 locations. The displaced ASR-7/8s will then be "leapfrogged" to replace old ASR-4/5/6s. This removal and reinstallation of ASR-7/8s will cost about $85 million. Since installation of the leapfrogged ASR-7/8 systems is not scheduled for completion until 1990, at which time they will have only a five-year remaining useful life, provide the cost-effectiveness date for this decision versus the option of direct replacement with ASR-9 systems.

Also, why are you using this leapfrogged approach when you have previously indicated that the ASR-7/8s are adequately meeting operational requirements where they are currently located?

[The information follows:]

To replace 56 ASR-7/8's with ASR-9's would cost $272 million versus the $85 million to leapfog these radars to less active terminals. The ASR-9 radar under the current contract is $4 million and site preparation is another $860,000. To replace all 115 of the ASR-7/8 radars at these rates, the cost would approach $560 million.

The useful life of the ASR-7/8 radar system is a function of parts availability which does not currently threaten their useful life. The ASR-7/8 radars are effective radars, but they do not have the advanced weather features of the ASR-9. The airports that the ASR-7/8's are being leapfrogged to, do not have the critical number of actual instrument weather operations as at our high density locations.

SEIC CONTRACT

Mr. LEHMAN. What is the current cost of the SEIC contract? What are the causes for the increase over the original contract cost?

Mr. FRISBIE. Mr. Chairman, the current 10-year total, recognizing we have a five-year contract with two options, would be $782.3 million, which is principally changed from our original estimate because of modifications adding work into that Martin-Marietta contract.

Mr. LEHMAN. At what level of performance did you rate Martin Marietta's performance in your latest evaluation, and how much did you award for that performance?

Mr. FRISBIE. Mr. Chairman, we think that they are doing a very good job. They are making a significant contribution to our doing the NAS Plan—in fact, an indispensable contribution. We give them a numerical grade and that equates to a B level, and the total fee awarded for this period was $3,294,861.

AVIATION SAFETY

Mr. LEHMAN. As you know, Congressman Sabo and I just completed an inspection trip of five European airports to assess their security policies and practices. My general impression is that the Europeans employ a greater number and variety of security checks than what I have observed at U.S. international airports. Of course, this is due in part to the greater threat at European airports. My question to you is, are U.S. international airports in fact less secure than their European counterparts, and, if so, must we wait for more terrorist incidents at U.S. airports before security is tightened?

Admiral ENGEN. Mr. Chairman, I would like to assure you that we need not wait until there is some unfortunate incident. I am aware of the international requirements working, and I know you are more familiar than I with specific airports in Europe now because you have made a recent trip there. We are concerned.

International terrorism is a threat not only to aviation, it is a threat to nations. I am working on a daily basis with the State Department through our security apparatus to continue to monitor what is going on. I would like to assure you that we have dynamic programs out there. We are in daily contact with those air carriers who are operating overseas, and I know that you understand that security is the requirement for the airport authority in the nation which is being served as well as the air carrier. The FAA, dictates the security requirements of the air carriers.

It is a continuing international problem and it is my opinion that, given time, this could flow towards the U.S. This is of great concern to us. We operate on a daily basis throughout the U.S.

measuring the security out there. We are only so many deep in the number of people that we have, and we can expend just so many dollars. But it is top on Secretary Dole's list, as well as mine, to ensure that the airports remain secure.

INTERNATIONAL TERRORISM

Mr. **LEHMAN**. You said you can expect the flow of this terrorism to reach our shores and that the airports themselves would be prime targets. I think you used the words "given time." I am just wondering, given time, do you expect a terrorist act at a U.S. airport in the near future? How are we prepared to deal with it?

Admiral **ENGEN**. I would prefer to answer that direct question in a private session with you.

We are working with those airports in the U.S. that have international air traffic, and we are using very stringent measures and standards at those airports to be sure that we don't import into or out of the U.S. anything that could produce a terrorist act. It is a trickle-down thing, and it has to come from those U.S. international airports like Boston, Chicago, O'Hare, JFK, and into our system. We are beefing up our internal security within the U.S. as well.

Mr. **LEHMAN**. I would think it would be very well for you and I and members of your staff and our committee to sit down together to address the same kinds of questions that we were able to ask at the European airports.

Admiral **ENGEN**. I would welcome that, sir, and we will be instantly available.

Mr. **LEHMAN**. Of course, it is being reported that U.S. travellers are cancelling their trips to Europe in record numbers. There are also reports that those who do travel to Europe are not taking U.S. carriers. Do you have any hesitancy in recommending that people fly to Europe—especially to the Mediterranean area? And should they be more concerned about their safety if they fly on a U.S. carrier?

Admiral **ENGEN**. As you know, sir, Secretary Dole, under the International Security and Development Cooperation Act of 1985, has a requirement to insure that overseas airports, to which U.S. carriers fly, meet standards. My job is to be sure that we do that, and I report directly to Secretary Dole. The airports in Europe at this time are under heavy security. Those U.S. air carriers that are flying there are abiding by our rules and regulations.

Just this week we have talked to all the air carriers and sent out additional criteria that they should abide by. I would like to assure you as well, as Members of the committee, and the American people, that we are having the American carriers, the U.S. carriers out there work to very stringent security requirements.

Mr. **LEHMAN**. We will talk about that in more depth later.

Mr. Coughlin?

NON-CARRY-ON BAGGAGE

Mr. **COUGHLIN**. Thank you, Mr. Chairman. Just a couple of follow-up questions on that.

Maybe this was covered when I had to be out a couple of minutes this morning; if so, please stop me. What are we doing now in connection with checking of non-carry-on baggage, baggage that goes into the hold of the airplane?

Admiral Engen. The most important thing about security oftentimes is what we don't tell you and don't tell the public. I want to be careful that we don't talk about procedures here that would tip our hand. I would like to defer that, if we could. I would appreciate it.

Mr. Coughlin. I will defer.

Mr. Lehman. Mr. Durbin?

Mr. Durbin. I will let you proceed.

ASSESSMENT OF FOREIGN AIRPORT SECURITY

Mr. Lehman. If you have any questions or wish me to yield, don't hesitate.

Your FAA staff in Brussels has been analyzing the security practices of various European, Middle East and African international airports. What is your assessment of the security measures in place at the Rome, Athens, and Vienna airports and perhaps Frankfurt? Are there any deficiencies in your view?

Admiral Engen. Now I am going to ask Mr. Broderick.

Mr. Broderick. All the airports you mentioned have recently been assessed. They are on the list of 180 foreign airports that are subject to the assessment program that is called for by recent legislation and has been implemented by the FAA. There are no significant deficiencies that weren't immediately corrected when we pointed them out to any of the airports that we have inspected, and there are none of any import at the four that you mentioned specifically.

Mr. Lehman. I was quite impressed with your people at your FAA office that deal with security. One of them, Mr. Carrington, traveled with us. He went several days with us and then he had a gut feeling that something might happen, so he went back to Brussels and something did happen.

There have been a series of terrorist bombings in France. What is your assessment of the security measures in place at Orly International? Are the French doing an adequate job?

Mr. Broderick. Yes, sir. We have had a number of consultative visits with the French since June of 1985. We have a very good relationship with them, and our evaluation of their airport security is that it is certainly excellent and meets any standard we could apply to it.

Mr. Lehman. We talked with the Italian security people and one of their problems was the French security people. That wasn't just the airport, that was in general.

The International Security and Development Cooperation Act of 1985 enables the Secretary to withhold, revoke, or impose conditions on the operating authority of U.S. carriers who use airports that you find are inadequately secured. Have you found it necessary to take such action or are you considering such action? If so, for which carriers and at what airports?

Admiral Engen. We wouldn't hesitate to place it in motion. At this point in time we don't have any airports that are in that category. We have come very close in the past, and once again, I would like to brief you at that meeting.

Mr. LEHMAN. We understand the Military Airlift Command also assesses security at certain foreign airports. Are you and the MAC fully coordinated in conducting these studies and sharing your results?

[The information follows:]

The Military Air Lift Command (MAC) conducts inspections of their military facilities only. On a joint use airport, Department of Defense personnel do not inspect the commercial operations. However, coordination has been established between the Federal Aviation Administration and MAC to assure that any information that could be of interest to the other is exchanged.

TIGHTER SECURITY MEASURES

Mr. LEHMAN. Tighter security at airports comes at a price—both in terms of greater costs to the airlines and time delays for the passengers. A recent Business Week/Harris Poll found that 83 percent of those who fly want all checked baggage to be either X-rayed or hand searched, even if it means having to show up 2½ hours before departure. Do you think that U.S. domestic passengers are ready to accept the time delays required by tighter baggage checks and the like? And are U.S. airlines willing to pay for tighter security measures at our domestic airports?

Admiral ENGEN. I think, sir, that the American public, when advised of the procedures, would be willing to accept time delays if it ensures that they were guaranteed a safe flight. I think we have to temper this with the situation. Are the airlines willing to pay for tighter security measures at our domestic airports? I find that the airlines will probably charge the individual passenger for increased security. Pan American announced in the paper this morning that it is charging a $5 surcharge for security. I would expect that this would be passed on to you and me as passengers. So the question really becomes: are we prepared to accept the cost of that? I think you would agree with me that we are.

Mr. LEHMAN. From what I have read, the number of passengers has actually increased at El Al since the last incident to TWA, and even though you have to show up 2½ hours ahead of time if you want to take an El Al flight.

Admiral ENGEN. Yes, sir.

Mr. LEHMAN. I know some U.S. carriers find it to be a competitive and economic burden to pay for the extra security measures you require at certain European airports, when the non-U.S. carriers are not required to meet those same requirements. Do you believe the Federal Government ought to reimburse U.S. carriers for the extra security measures you require at foreign airports?

That would be sort of a subsidy for security.

Admiral ENGEN. I do not believe that, sir. I believe that in this free market economy of ours that the FAA should require that there be certain standards of security and that those security standards should be met.

Mr. LEHMAN. Both Pan American and TWA felt that that put them at a disadvantageous position competitively with the nationally owned carriers overseas. Would you expand on your answer for the record?

Admiral **Engen**. I will, and I believe that when people understand that they are being provided additional security they would be willing to accept that charge.

[The information follows:]

It is our understanding that some foreign governments are requiring U.S. carriers to implement additional security procedures, and not requiring other air carriers to implement the same procedures. If these additional security procedures are deemed to be excessive and discriminatory, the Department of State will request those foreign governments to withdraw their added procedures when the Federal Aviation Administration's enhanced and extraordinary security procedures are in effect.

SECURITY EMPLOYEE PERFORMANCE

Mr. **Lehman**. Of course, airport and airline passenger security is only as good as the people who perform it. We heard in Europe—and I know the same problem exists in the U.S.—that the people manning the X-ray machines and performing baggage searches are poorly motivated and don't always do a good job in searching for weapons, etcetera. The pay is low, the job is tedious, turnover is high, and there seems to be a lack of top management attention towards improving employee performance. To what extent is this a problem in providing adequate airport security? And what is the FAA doing to upgrade employee performance in this area?

Mr. **Broderick**. Mr. Chairman, I think a large part, as you indicated in your preamble of the problem, is people, perhaps 90 or 95 percent. Security, to a large measure, is dependent upon the perception of people as to the vulnerability of a system. The lack of professionalism that you allude to is something which is detrimental to the image that we would like to create. It is a difficult problem in human factors. It is one that we are acutely aware of. We are addressing it in several ways.

The first element of the Secretary's review of all of the security procedures domestically in fact focuses on the preboard screening aspects of security. We will be working with that group, in fact participate, of course, with that group in the study, and will be working with that group with the airlines and of course internally to try and develop two parallel approaches to solving the problem, the carrot approach, which is perhaps rewards for performance, for finding things, for just looking and being sharp.

The second thing is the stick, the enforcement part of our programs, perhaps developing testing scenarios and methods for better enforcement of our regulations.

Mr. **Lehman**. We found out that they only leave a person on a machine not more than two hours at a time. Apparently they rotate the people through and they have other jobs besides that job. It is a division of responsibility.

Mr. **Broderick**. In fact, we have applied similar standards to airport security in the U.S., but it has to vary depending on the airport. At a very small airport that is not very busy, you might not want to apply such a standard. On the other hand, at a very busy airport with a constant stream of people going by, perhaps two hours is too long. It has to be varied to the situation and the kind of equipment and the human factors and ergonomics and all the things that go along with it.

Mr. **Durbin**. Are most of these jobs across the country of people who inspect the baggage, are those low-paying jobs?

Mr. **Broderick**. Generally speaking, yes, sir.

Mr. **Durbin**. As I understand it, it is basically a decision by the airlines and the airport as to whom they might contract with to perform that service?

Mr. **Broderick**. They must provide a service which produces results acceptable to the FAA in accordance with the standards that we apply. But, yes, sir, it is a free choice on their part.

Mr. **Durbin**. Of course, in an era of deregulation where we have these cutthroat fares going on and a very slim profit margin from month to month for most of these airlines, isn't there, if we are going to return to our marketplace model, an incentive to cut back on expenditures for safety and security?

Mr. **Broderick**. The free market system will show you that the flexibility that people have is something that enables them to react very quickly. Today we heard that Pan American was starting a new program of charging and recouping fees. It took them years to get that kind of recouping of fees from the subsidy that was enacted in legislation when their rates were regulated. I think the fact of the matter is that we all recognize this problem.

There is certainly no incentive for the airlines to provide sloppy or lax security, and I think you are going to see in the very short term a marked improvement in the professionalism, the training and presumably the salary that goes with these jobs, in part pushed by our fairly vigorous enforcement program and increased stringency of regulations that we are applying.

Mr. **Durbin**. I hope you are right, because I don't think that one of the frills of air service is safety or security and that if these carriers are trying to bring down the fares to the point they drive their competitors out of business it strikes me that one of the last things they will do is suggest to their passengers that we offer safer and more secure airplanes as a come-on. Admittedly, the market may be responsive to those two elements, but I think most passengers assume that the basic standards of safety and security are there no matter where they travel. And I fear that unless your agency is very vigilant in this area we will see a decline in quality as the competition increases among major airlines.

Mr. **Broderick**. In my view, offering substandard safety or security services on the part of the airline to the public is one of the fastest routes out of business, and we will be happy to help them.

SAFETY AND SECURITY STANDARDS

Mr. **Durbin**. I agree, but as long as you don't make it clear to the consuming public by some rating standard on safety and security I think to assume that a small article in The Wall Street Journal about violations of an airline is shared by people across America doesn't wash. If you are giving the consuming public the right to decide, then I will buy right into your free market theory.

If you are saying we are not going to fully inform them as to the safety aspects of an airport and let the free market work, the public is operating out of ignorance.

Admiral **Engen**. The FAA requires that people meet standards.

Mr. **Durbin**. Minimum standards?

Admiral **Engen**. Meet or exceed.

Mr. **Durbin**. Minimum standards.

Admiral **Engen**. If you want to call them minimum, fine, but they are set standards.

Mr. **Durbin**. Let me ask another question along the lines of a question I asked this morning based on what happened at Heathrow. Should we now be putting inspectors on to go through baggage and not just be satisfied that the magnetic devices determining how much metal is in each baggage are sufficient?

Admiral **Engen**. I think there are given times when this should be done or not done, and I would be willing to include that in the briefing we give in your office.

Mr. **Durbin**. I suggest that the week of April 14, 1986, is one of those given times. It strikes me that it may be false economy to withhold making that part of our national policy.

Admiral **Engen**. Things are being done. I don't want to imply that we are sitting by idly. I don't want to detail for somebody who might have some devious means what is being done.

Mr. **Durbin**. I don't want you to either. Thank you.

SECURITY SCREENING

Mr. **Coughlin**. Could somebody explain the security operations there? They are contracted for by the airlines or by the airport, or how is the arrangement made?

Mr. **Broderick**. We don't tell people how to do it. We lay on the airport and on the airline specific security regulations they must follow. With regard to the screening, that is a requirement laid on the airline. Each airline at Dulles, for example, has the requirement to provide a screening service. Several airlines can get together in a concourse at an airport and elect one of them to supply screening services for all of them, or they can all get together and ask the airport to contract for those services. What is important to us is that we do not then go to whoever contracted for the services. We hold the individual airline on whom the passenger that is the subject of an investigation was flying responsible for that activity.

For example—purely as an example—if American Airlines had a problem with a passenger that got through screening but the screening happened to be provided by United Airlines at that terminal, we would not bother with United Airlines, we would make sure that American Airlines has proper enforcement action taken against it.

Mr. **Coughlin**. You can't help but see as you go through the screening things, operators talking to each other and not paying a lot of attention as to what is going through there. Has anyone been fined for laxity?

Admiral **Engen**. Yes, sir.

SECURITY ENFORCEMENT PROGRAM

Mr. **Coughlin**. How did you do that last year?

Mr. **Broderick**. We can provide it for the record.

Admiral **Engen**. I can readily provide it for the record, because I review this weekly.

[The information follows:]

The Federal Aviation Administration initiates investigations whenever it is determined that an air carrier has failed to perform as required by regulation. While there is no violation for laxity per se, failure to adequately screen would be one such requirement that results from laxity. We are confident the air carriers are fully aware of the current threat and laxity should not be a problem.

Mr. **Coughlin**. So, there is enforcement?

Admiral **Engen**. On any week I review three to seven instances where this had been done the week before.

Mr. **Broderick**. There are literally thousands of security violations processed each year. It is a very active enforcement program.

Mr. **Coughlin**. Thank you, Mr. Chairman.

WEAPONS DETECTION

Mr. **Lehman**. As you said, the airlines themselves are the ones responsible for the security and safety for personnel. Yet, to my knowledge, none of the people at the security areas are employees of the airlines themselves. Take Miami International; the air carriers have contracted with the airport, who, in turn, contracts to an individual security operation.

Wouldn't it be better if the security, once you get to that security gate, were in the hands of the airline people themselves and they had their own personnel? In light of that, for instance, in West Berlin's airport, if a no-show appears in an airport and the baggage is already on the plane, it is up to the captain of that aircraft if that captain wants to take off with a no-show and a piece of luggage in the airplane. The final decision is made by the captain of the aircraft.

Mr. **Broderick**. We would not have allowed a captain to transport that piece of luggage today in the U.S. airplane.

Mr. **Lehman**. I think you mentioned a couple days ago, or someone did, that there were about 3,000 weapons picked up a year.

Mr. **Broderick**. Yes.

Mr. **Lehman**. I won't ask you to say now, but I would like to know what airports mainly the weapons come through, and I wonder whether those airports have less security or whether they just have more problems.

Mr. **Broderick**. We will be happy to provide that.

[The information follows:]

Weapons have been detected at almost all airports in which security screening is required. More weapons tend to be detected at larger airports than smaller airports because of the numbers of passengers screened. There are also some areas of the U.S., the southeast and southwest, where firearms are more routinely carried than others.

IMPROVED SECURITY EMPLOYEE PERFORMANCE

Mr. **Lehman**. You say you have a carrot and stick for the security people.

What kind of carrot do you give people for catching weapons?

Admiral **Engen**. We are just embarking on such a carrot and stick process. Mr. Broderick and I talked earlier this week and we are thinking in terms of a reward of, say, $50 for finding a weapon, so that the person would be recognized. We are going to do this at two selected locations in the United States, and measure the effectiveness of this. We will be embarking on this as soon as we can coordinate it with the individual airports.

Mr. **Lehman**. Do you think the airlines and their security contractors have done all they can do to make these jobs more interesting and rewarding? For instance, should these people be rotated from job to job more frequently, or should bonuses be paid for finding weapons?

Mr. **Broderick**. As we indicated, sir, there is more that can be done and more that must be done.

Mr. **Lehman**. If you paid $100 for every weapon you found, I imagine people would be stashing weapons in there and splitting the difference.

Mr. **Broderick**. The fine is a lot more than $100, however.

The penalty for carrying the weapon in the first place, though, is.

Mr. **Lehman**. How much do you pay a person that finds a pistol in a handbag or——

Mr. **Broderick**. It is an interesting question. As the Administrator indicated, the program that we have in mind is just in its infancy. But we want to examine that because it may well be a good way to approach that.

Mr. **Lehman**. I believe most of those who man the X-ray machines earn close to the minimum wage. Is that a fair wage, in your view, compared to the importance of their job?

What opportunity is there to move up the ladder if they do a good job?

Mr. **Broderick**. The question is a difficult one. I think of teachers and nurses and security personnel, and look at the importance of their job and the wages they get. The marketplace, which is something that is outside of our direct control, sets those wages.

I think the kind of things that we will be doing and expecting airlines to do are going to make these employees better trained, more professional, and presumably paid more, because the turnover would be reduced. Reducing turnover will be a direct way to cut costs. It has got to be in that approach, I think, that we address this problem.

PERFORMANCE OF AIRLINES SECURITY SYSTEMS

Mr. **Lehman**. You conduct routine tests of airline security systems by trying to smuggle fake firearms and the like onto planes. How would you rate the general performance of the airlines' security systems? What fines are you allowed to assess the airlines for lax security? And how often have you assessed such fines?

Mr. **Broderick**. We can provide the details for the record on the actual amounts and frequencies of assessments.

[The information follows:]

Screening systems at 62 major airports within the United States were tested during January and February 1986 using the Federal Aviation Administration approved test objects. Seventy six (76) percent of the test objects were detected. The Federal Aviation Administration considers this performance to be less than satisfactory. We feel the screening equipment used and the training provided are good, and the overall test results should have been better. Monetary fines cannot be assessed on air carriers at this time for failure to detect the test objects. The Federal Aviation Administration is considering making failure to detect test objects subject to issuance of a civil penalty (fine).

AIRLINE FINES

Mr. **Broderick**. We have an array of fines that can be assessed, just like in the civil penalty cases that we discussed earlier.

The general assessment of the program would be that our security is not perfect, but it is indeed very good, as measured by our testing and recovery of weapons and contraband that we see. We generally address deficiencies found in terms of collecting the deficiency, if it is a training deficiency or equipment deficiency or whatever, rather than a fine.

But I would say that in the past tense, because as I indicated earlier, in addition to the carrot we have been talking about, we need to consider, reconsider, our enforcement program and fines in this area as well as that.

Mr. **Lehman**. Please provide for the record the total amount and number of fines you have assessed the airlines for the lax security systems in fiscal years 1983, 1984, 1985 and 1986, to date.

[The information follows:]

Our records reflect fines assessed by calendar year (CY). We don't have the figures for 1986 to date. The fines for CY-83, CY-84, and CY-85 total $200,457. This total is broken down as follows: U.S. carriers—CY-83 $26,861, CY-84 $62,300, CY-85 $105,296; Foreign carriers—CY-83 none, CY-84 $6,000, CY-85 none.

SECURITY STANDARD ENFORCEMENT

Mr. **Lehman**. Should your agency get tougher with the airlines in enforcing your security standards? Would assessing more fines serve to motivate the airlines to motivate their security personnel?

[The information follows:]

The Federal Aviation Administration has increased the number of investigations initiated in the past few months. This is primarily because of our increased focus on better security at domestic airports. It is questionable whether increased civil penalties would result in fewer violations. The air carriers (and the airports) do not want *any* violations regardless of the amount of the fine. We believe we have the attention of the air carriers. The violations most often occur when individuals fail to perform.

RANDOM HAND SEARCHES

Mr. **Lehman**. In speaking to the El Al security people in Rome—who are regarded as the best in the world at security—I learned that they rely almost totally on hand searches, interviews, and other physical inspections instead of X-ray machines, metal detectors, and the like.

I also observed that most European airports conducted random hand searches of carry-on baggage and random body searches as well as employing the standard metal detector checks on all passengers. We saw that, and when Gregg tried to take a photograph they wouldn't allow us to take a photograph of them doing the hand search. Not less than one in ten are searched, especially in Rome.

The airport security people we talked to regarded these random hand searches as a very important deterrent. To my knowledge, the FAA does not require random hand searches of baggage in the U.S.

Are you moving in that direction?

Admiral **Engen**. I would like to have Mr. Vincent address that if there is a question.

Bill?

Mr. **Lehman**. The question is, when are you going to require the random hand searches?

Mr. **Vincent**. Part of that, Mr. Chairman, will be covered in the closed briefing that the Administrator offered, particularly the detail.

But to go back and comment on the outset of your question, that is, El Al, El Al is considered—and there is no question—it is the best in the business. They have had the greatest threat for the longest time, and also have developed the most comprehensive procedures. We are very well aware of their techniques and their processes and have an active exchange between our respective security groups, very active, in fact, so much so that I spent almost two weeks there this last December.

Now, we are moving in that direction, and exactly how far we have gone, again I will leave to the closed briefing.

Did that answer the question?

Mr. **Lehman**. What I would really like to know, if you can tell me, is when on a domestic flight that you expect to have an FAA regulation requiring random hand search?

Admiral **Engen**. Let me answer this way, because I think it is a matter of policy, Mr. Chairman. That will be done when the threat escalates to above what it is right now. It would not be done today given the threat in the United States that we have now.

Mr. **Lehman**. Oh, boy, I hope you are right; that you will be ahead of the curve.

Admiral **Engen**. On Saturday, April 19, that can change.

Mr. **Lehman**. Yes.

Admiral **Engen**. Really. We are literally monitoring this based upon inputs from around the world on a daily basis.

Mr. **Lehman**. You see, this is not only to catch things that the X-ray machines don't find; but this is also a preventative.

Admiral **Engen**. That is right. And at the drop of a hat we can implement that at any given airport we want to. That can be done.

Mr. **Lehman**. You should do it as a demonstration project somewhere.

Admiral **Engen**. Yes, sir.

REVIEW OF U.S. AIRPORT SECURITY

Mr. **Lehman**. Last February, the Secretary announced a comprehensive review of security at U.S. airports. What prompted this review? Are you dissatisfied with current security practices?

[The information follows:]

The Secretary of Transportation announced the comprehensive review of security at airports in the United States as a logical follow-on to similar reviews undertaken over the past year in several other areas of transportation safety. It also complements efforts undertaken since June 1985 to develop a concerted effort to strengthen aviation security around the world. The overall objectives of the review are to assure effectiveness of the current system, assure the system is capable of timely response to future contingencies, and to assure complete public confidence in the system. While there is always room for improvement when dealing with individuals, we are satisfied both the airports and air carriers are sincerely trying to maintain and improve security at U.S. airports.

MONITORING OF SECURITY PRACTICES

Mr. Lehman. Do you plan to step up your monitoring of the security practices of U.S. airlines; and do you have sufficient resources to do the job?

[The information follows:]

Special emphasis has been directed at the monitoring of security practices of U.S. airlines in both domestic and international operations. With the additional positions, which were recently authorized, the Federal Aviation Administration should be able to continue monitoring U.S. airline operations at domestic and foreign airports.

ANTI-TERRORISM LEGISLATION

Mr. Lehman. The department has submitted legislation making it a Federal crime to enter secured airport areas without authority. The bill would also require background checks for airport employees who have access to secure areas and enable the Justice Department to conduct special background checks.

How important is this legislation in reducing the terrorist threat at U.S. airports?

Admiral Engen. I feel, sir, that it is very important. There is a great need to have detailed knowledge of who has access to the airport itself, and this legislation would enable us to place in motion procedures which would let us deal with the terrorist threat.

Mr. Lehman. As you know, if you wanted to get a job at the FBI or with the Nuclear Energy Administration, you have background checks, and I think some of these airports now are becoming just as threatened as the possibility of someone working at the NEA.

Admiral Engen. Yes, sir.

You do know, we have gone to pre-employment checks.

Mr. Lehman. How far back, however?

Mr. Broderick. Five years.

Admiral Engen. Five years, I am told.

Mr. Lehman. At one time, you just had a reference from your last job.

Admiral Engen. Yes, sir.

Mr. Lehman. What is your position on H.R. 4294 introduced by Congressman Hughes on March 4, 1986?

[The information follows:]

The Federal Aviation Administration and the Department of Transportation would support the position taken by the Department of Justice and Department of State on any anti-terrorism legislation.

AIRPORT CONTROLLED ACCESS

Mr. Lehman. Officials at Tegel Airport in West Berlin were very proud of their system of limiting the access of airport employees to sensitive areas of the airport. They have gone so far as removing uniformed pilots and flight attendants from the tarmac if they did not possess the proper credentials.

Are you satisfied with the employee access restrictions currently in effect at U.S. airports?

Admiral Engen. Mr. Chairman——

Mr. Lehman. Especially on the air side?

Admiral Engen. I understand.

You know, the United States is in a period of transition. We are dealing with a new threat. We see the Capitol barricaded, we see concrete abutments about. Life has really changed in the last few years for the average citizen in the United States.

We are dealing with what has previously been free and open access on the part of flight crews in the field. People have been permitted to move about, and they are being challenged today. We do challenge them.

I don't know that I can tell you that I am satisfied with the employee access restrictions currently in effect at U.S. airports. I would have to assess that further.

Do you want to say anything?

Mr. **Broderick**. I would say the system—we do require access controls under part 107 of the FAR. The airport operators have to control access to the air operations area. Generally, they have a badge system or some other positive ID system. These generally work quite well. But there are holes in them.

It is a constant surveillance and enforcement problem to ensure the 90 percent of the problem—the people actually doing the challenge and checking of the badges—are in fact doing their job. But the system is generally working quite well.

AIRPORT EMPLOYEE BACKGROUND CHECKS

Mr. **Lehman**. You said you did a five-year background check.

Would that prohibit anybody from working in airports that had not been in the United States for five years?

Mr. **Broderick**. It is a five-year pre-employment check.

Mr. **Lehman**. But suppose he had been working in Algiers.

Admiral **Engen**. He would get a lot of scrutiny.

Mr. **Lehman**. That is right.

Admiral **Engen**. Or she would.

Mr. **Lehman**. Should you require airport employees to go through the same kind of screening process as passengers before they show up on the air side of the terminal?

Admiral **Engen**. I think that that would be———

Mr. **Lehman**. We have to do———

Admiral **Engen**. It should be across the board, and the FAA people there should identify themselves as well.

Mr. **Lehman**. Badges don't necessarily make everything totally secure.

Admiral **Engen**. Right.

Mr. **Lehman**. What do your regulations currently require with respect to airport employee background checks?

[The information follows:]

In November 1985, the Federal Aviation Administration amended the airports and security programs to require that background checks be conducted on all employees with unescorted access to secured areas on airports. The checks must, at a minimum, verify representations made by the employee or applicant for employment relating to employment in the preceding five years.

Mr. **Lehman**. In West Berlin, you do not get a job at that airport if you haven't had five years of good behavior. Maybe we should think in terms of that here, because people come from overseas after two or three years and get a job at the airport, and you don't know where they were.

We could have civil liberties problems, I understand, as my staff says.

Mr. **Broderick**. We do vary the kind of access, Mr. Chairman, access control and precautions we take for people operating on the airport operations area.

Again, that variation depends not only on the specific airport but the threat that we perceive and understand that exists at that airport, and we will be happy in this briefing to go into the details of it, what times we search which people getting into what areas.

FEDERAL AIR MARSHAL PROGRAM

Mr. **Lehman**. Last year in June, when your expanded sky marshal program was announced, there was some dissatisfaction expressed by the airlines and by some pilots. For instance, a spokesman for the International Air Transport Association reportedly stated: "We are not happy about anybody having guns up in the air."

What has been the reaction of the airlines and pilots since last June?

Admiral **Engen**. I would like Mr. Vincent to answer that, sir.

Mr. **Vincent**. Mr. Chairman, in the Airline Pilots Association magazine this month, the current issue, there is a two- or three-page major article in the magazine which addressed security, and it has a side bar that specifically deals with their views on air marshals versus sky marshals. They are adamantly opposed to the sky marshals, according to that. That is the old program of the early seventies, which we believe—and apparently they do, as well—that we did not have the same professional level of training and status of those people.

That is not the case now. They fully endorse the Federal Air Marshal Program now because we do a lot of concentration on the ground systems before that flight ever takes off. So, they are an augmentation in a sense of the security system wherever they fly from.

They are, of course, there as well for that final decision if that ever has to be made, but given the right training to do the job and do it correctly without danger or minimum danger to the passengers and crew in that aircraft.

Mr. **Lehman**. For the record, would you designate the difference between the air marshals and sky marshals, and why one is approved and the other is not?

Mr. **Vincent**. Yes, sir, we will be happy to.

[The information follows:]

The old "sky marshal" program of the early 1970's consisted of volunteer military personnel and employees of the U.S. Treasury Customs Bureau. The current Federal Air Marshal Program consists of specially selected, highly trained employees of the Federal Aviation Administration.

The past use of personnel from other Federal law enforcement agencies and the military to provide additional security on international flights created many problems for the Federal Aviation Administration. Lines of authority and communication became difficult for agents to distinguish because of the different backgrounds and organizations with different priorities and procedures. Scheduling problems and conflicting demands made use of other Federal law enforcement or military personnel in an armed or Federal Aviation Administration special agent category extremely difficult to manage.

DEVELOPMENT OF NEW SCREENING DEVICES

Mr. **Lehman**. There are several new screening devices currently under development, such as the thermal neutron activation device for baggage screening and new vapor detection equipment.

How promising are these devices, and do you have sufficient resources to continue development at the fastest possible pace?

[The information follows:]

Both the thermal neutron explosive detection system for checked baggage and the chemiluminescent explosive vapor detector for passenger screening are on schedule. Preliminary results are very promising. Current estimates are that target performance levels will be met and that the explosive vapor detection system may complete development, testing, and documentation delivery slightly ahead of schedule. Both programs are adequately funded.

R&D FUNDING FOR NEW TECHNOLOGY

Mr. **Lehman**. Would increasing the research and development funding for this new equipment beyond what you have requested enable you to accelerate the ultimate deployment of this new technology?

[The information follows:]

The thermal neutron and chemiluminescent explosive vapor detector development programs are adequately funded in FY-86 and FY-87. Progress on these programs is limited by technical development, hardware component delivery, and software development. Additional funding would not significantly expedite development, testing, and delivery of these systems in FY-87 and FY-88 respectively.

SKY MARSHAL INVOLVEMENT IN TERRORISM

Mr. **Lehman**. Have your sky marshals been involved in or prevented any terrorist incidents since we reestablished this program last year?

Mr. **Broderick**. No, sir.

Mr. **Vincent**. No, sir, they have not, Mr. Chairman. No, sir.

Mr. **Lehman**. Okay.

Mr. **Vincent**. You might say it is kind of like trying to prove a negative, too. The terrorist groups that are arrayed against us out in the Middle East do surveil us. They know something of what is happening in the security system. That, in itself, the knowledge that the air marshal system is active, is in itself a deterrent and may have stopped some acts that would have otherwise been committed.

Mr. **Lehman**. Thank you.

Before moving up to page 39, I would yield to Mr. Coughlin.

AIRLINE MERGERS

Mr. **Coughlin**. Thank you, Mr. Chairman.

I have a few random questions, if I might here, before we get back to the regular order.

We are seeing mergers in the industry, various, including Piedmont-Delta, Western, U.S. Air-United. How concerned are you that we will get to the point of only having a handful of large carriers, and is that necessarily bad? And what about the competition?

Admiral **Engen**. I am a regulator and enforcer. I will give you our opinion based on our examination and safety criteria.

I don't think such mergers are or will affect safety or operation of the system or the ability to comply with the Federal Aviation Regulations. In some cases, it may even improve it where a stronger carrier takes over a less strong carrier, or where there is a merger and that better procedures can evolve. That could be a helpful thing.

Mr. Coughlin, I don't know where this will lead. I read the editorial pages, as well, to see what people are saying. Clearly, we are heading to fewer, larger airlines. We are ready to accommodate that in the FAA.

Mr. **Coughlin**. I guess the question is, can or should the FAA regulate that trend?

Admiral **Engen**. At this point, I have no say in that at all other than if something is done which is a violation of the FAR. You have me in an area in which the Department of Transportation does have a great deal to say, and the Department of Justice does.

Mr. **Coughlin**. You do not?

Admiral **Engen**. I do not.

Mr. **Coughlin**. You feel like you should?

Admiral **Engen**. I feel that I have the limit of my authority. I feel confident that we can look at, examine, and inspect any organization.

Mr. **Coughlin**. Okay.

Admiral **Engen**. Regardless of size.

TWA LABOR DISPUTE

Mr. **Coughlin**. The striking TWA flight attendants recently charged that TWA compromised passenger safety by replacing nearly 6,000 strikers with inexperienced workers. I assume you monitor situations like that wherever you find them?

Admiral **Engen**. We do indeed, and I would like Mr. Broderick to respond to that.

Mr. **Broderick**. Any time there is a labor dispute or seriously threatened dispute, we have standard procedures that increase surveillance and security. In this case, we have done over 900 inspections of TWA since that strike began. In addition, we have monitored the training and the kind of special programs they have underway; and further, every infraction that is alleged and reported to us by striking flight attendants or anyone else is recorded, logged in a computer system, and investigated fully.

GENERAL AVIATION INSURANCE

Mr. **Coughlin**. We talked this morning a little bit about the question of insurance, and you brought up the question of general aviation insurance, and Mr. Carr, if he wants me to defer to him, I would be happy to do so.

Mr. **Carr**. No, no.

Mr. **Coughlin**. I would like to get your opinion of the bill that has been introduced by Mr. Carr providing for specific treatment of general aviation in the tort field, because it is something of a unique industry and general aviation tort law has become highly specialized with a lot of nuances not included in general tort law.

What is your opinion on that legislation?

Admiral ENGEN. I apologize to Mr. Carr in that I have not read the entire piece of legislation, but I am indeed familiar with it. My role, of course, is one of safety and enforcement, and I have a secondary role, after safety, of promoting air commerce. I am indeed interested in allowing people in this nation of ours to use the air space to the greatest extent. I find the liability laws of our land restrictive in aviation, and I find them restrictive in water heaters and automobiles. It is of concern to me.

I think it is a damper upon air commerce, and I would hope—that in Congress' wisdom there could be some specified relief that would indeed help promote air commerce.

I might add very quickly that probably the single area of the United States that is in very dire straits now because of this is Alaska. The insurance rates in Alaska have just skyrocketed and we are finding that the on-demand air taxi operators, are severely burdened.

I know there are air taxi operators in Alaska who are operating without insurance and are doing it to maintain their livelihood. I would support anything that you fine gentlemen could do to help this nation take on that problem.

Mr. COUGHLIN. You would favor congressional action in that area?

Admiral ENGEN. Yes, sir.

Mr. COUGHLIN. Turning to another subject——

Mr. CARR. If the gentleman would yield.

Mr. COUGHLIN. I would be happy to.

Mr. CARR. While we are on product liability, I think another important and related thing is that when somebody sues as a result of an aviation accident, it is generally the deep pocket principle that applies, and the FAA itself is one of the defendants, and I don't know that you want to do it right now but I think we ought to have a whole line of questions that deal with the potential liability of the FAA, what the FAA is finding.

This phenomenon is not striking just at Part 135 and individual owners; it is driving into the taxpayers' pocketbook through lawsuits joining FAA as a party, and this has a consequence for this committee's responsibility directly. And I don't know that you want to get into that right now, Larry, but that is a——

Mr. COUGHLIN. Whenever you wish to get into——

Mr. CARR. It is your time.

Mr. COUGHLIN. You might comment on that, if you would.

Admiral ENGEN. I would just agree. I find my name and the FAA on a lot of lawsuits. My chief counsel Mr. Ellett who does a magnificent job defending me and assuring you, as American taxpayers, that we don't allow something to go unchallenged is here. It is indeed a real problem all through the United States.

If I could branch out of aviation—although that is my only driving concern—the problem goes across into the home. It goes to water heaters, automobiles, and other things, as well. It is a very real problem.

ROTORCRAFT TASK FORCE

Mr. **Coughlin**. Turning to another subject for a moment, in April 1982, back in the days of Mr. Helms' guidance, the FAA established a rotorcraft program office in FAA headquarters. Then, on March 7, 1986, that was abolished, and the responsibilities were then diluted.

As I understand, in 1984 you established a committee that was supposed to meet at least semi-annually, the last of which was held in November 1984, and now most recently in March there is now a rotorcraft task force. This seems to be bouncing around and moving from one thing to another, and not much attention being devoted to the whole area of rotory aircraft.

I wonder, why is this happening?

Admiral **Engen**. Let me respond to that.

Mr. **Coughlin**. What are you doing in this area?

Admiral **Engen**. Let me respond, because I am very interested in it, Mr. Coughlin.

First of all, I am vitally interested in rotorcraft, as I believe that city-to-city transport is an area in which we should look a great deal to. We have four heliports, in fact, built, financed and supported by the FAA, that are evaluating the rotorcraft principle. One of them is in Indianapolis. If you are out that way, I would like you to look at it.

I am also supporting very strongly the tilt rotor concept of rotorcraft, and I have NASA, FAA and DOD sharing the cost—$250,000 each for NASA and FAA, and I have the Department of Defense $150,000—so that we can study how that tilt wing rotor concept can be used in city-to-city transport. That is prefatory to saying that I have abolished the rotorcraft office because I am trying to reduce the size of my headquarters.

I can't afford to have an office for general aviation or an office for rotorcraft or an office for air carriers. I have got to have my organization broad enough that those disciplines and those interests are in the organization, and they all come under Mr. Broderick and Flight Standards. It is my goal and desire that rotorcraft get all the visibility we can possibly give it because I believe in it.

Now, the ROTAF, rotary wing task force, did meet last March, and that is a useful organization. I intend to build on that in the future. But I have done away with the rotorcraft office.

Mr. Broderick?

Mr. **Broderick**. I might just mention a couple things. The Program Office responsibilities have not in fact been diluted but have been assumed by the appropriate segments of the Offices of Airworthiness and Flight Standards. They are fully staffed and will be responding directly to any inquiries in that area of specialization.

The rotorcraft task force—the ROTAF, as it has been called—has been meeting regularly. We postponed the last meeting just because of scheduling difficulties. The next meeting is in fact scheduled for April 25, and we expect to continue the bi-monthly meetings indefinitely. That has been a very successful program and series of meetings, and we hope to continue.

Finally, the rotorcraft program committee, though it has not met since late 1984, we did call the two bi-annual meetings—semiannual meetings that were required in 1985. The agenda items presented by the members of the committee were such that we could more easily handle by correspondence and telephone rather than calling everybody to come to Washington. And we elected to do that that way. I expect to continue activities of that committee, as well.

So, we have not abolished or are ignoring rotorcraft. To the contrary, we are probably going to be able to give more direct and speedy attention to rotorcraft problems than ever before.

Mr. **Coughlin**. But there is no—other than the task force now, there is nothing directly that keeps rotorcraft and problems associated with them out of high visibility, high level of attention?

Admiral **Engen**. Oh, no. But go ahead.

Mr. **Broderick**. Other than the rotorcraft meeting, which is a bimonthly meeting of people, and the access that people in the community and American Helicopter Society have, very directly to the top executives in the FAA, there is no focal point just as there is no focal point for any other particular kind of interest group. We are more functionally operated rather than operated by particular interests, sir.

HELIPORTS

Mr. **Coughlin**. And who is managing the program to establish heliports in the FAA in senior management now?

Mr. **Broderick**. We still have in the Office of Flight Standards the responsibility for that program. Of course, we work closely with Mr. Donahue's people in the airports program.

Admiral **Engen**. He is the Associate Administrator for Airports. Let me ask him to respond about heliports.

Mr. **Donahue**. That is one of the areas the industry is very, very interested in. We did have a Notice of Proposed Rulemaking on the IFR heliport. We have kept on top of that, and as far as that goes we have an industry-wide meeting on the 24th of this month with HAI and the Helicopter Society to discuss that subject of heliports very broadly.

ROTORCRAFT MASTER PLAN

Mr. **Coughlin**. And there is a goal of establishing 25 heliports by the year 2000?

Mr. **Broderick**. That is the goal stated in the rotorcraft master plan. If we can get the community interest and the industry participation in it, we have no reason to doubt that that goal should change. But, of course, the establishment of an airport or heliport is largely dependent on the local community interest.

Mr. **Coughlin**. Thank you, Mr. Chairman.

Mr. **Lehman**. Mr. Carr.

RESEARCH AND DEVELOPMENT BUDGET REQUEST

Mr. **Carr**. Thank you, Mr. Chairman.

Admiral, I would like to address a few questions on the research and development side. I have been trying to page through here, and I don't have enough markers and I have run out of fingers to hold the place here.

What is the budget request that you submitted for R&D this year? Is it——

Admiral **Engen**. $134.5 million, roughly.

Mr. **Carr**. $134 million.

What is the authorized level we are at for 1987? Is that $193 million? I got a number here, and I don't know whether it is right.

Admiral **Engen**. I will ask Mr. Blake, who is my research and development person, to respond to that.

Mr. **Blake**. Yes, that is right.

Mr. **Carr**. $193 million; is that right?

Mr. **Blake**. Yes.

Mr. **Carr**. What did we appropriate last year?

Admiral **Engen**. $215 million, I believe. Excuse me, no, $205 million.

Mr. **Carr**. $205 million.

Well, I just think that is an awfully hefty drop. And if, God forbid, if Gramm-Rudman-Hollings were to go into effect and the Supreme Court overturned the lower court decision, I would assume that some of this stuff would just get decimated. At some point, you get below a critical mass of dollars.

Admiral **Engen**. Yes, sir.

HOST COMPUTER

Mr. **Carr**. I would like to get something on the record. Number one, you are going from $205 million. And suppose we agree with you at $134 million; what is being kicked out?

Mr. **Blake**. Well, there have been——

Mr. **Carr**. Or deferred or whatever?

Mr. **Blake**. There was one major change in the funding level for advanced automation programs. They dropped about $60 million between these two years. I think that, plus the focusing of the R&D plan on support of the NAS Plan program and deferral of initiating new, longer-range R&D activities, are perhaps the two major factors that are the difference in the budget levels between the two years.

Admiral **Engen**. I would like to share with you, that is our seed corn for the future, of course. There is indeed some point which is very subjective that is a critical mass. We feel that this amount lets us keep those things vital that we need to develop and keep them moving. We have some 10 or 12 major programs in that R&D budget.

Mr. **Carr**. Well, just looking at host computer, what was your statement? $60 million?

Mr. **Blake**. The total on the nation's program——

Admiral **Engen**. Mr. Pozesky.

ADVANCED AUTOMATION SYSTEM

Mr. **Pozesky**. We are asking to move a large part of the advanced automation system, called the AAS program, into the F&E account as a way to deal with the reduction in the research and development appropriations. That occurs for two reasons: the reduction itself, and the fact that much of the work in the DCP phase will carry into production. We think it is an appropriate use of the F&E funds. If you look in your F&E budget, you would find funds for the development concept phase of the advanced automation system in that F&E budget that in previous years appeared in the R&D budget.

Mr. **Carr**. I guess I am having a problem finding the $60 million. I am looking at this budget estimate, this big job I hear.

Have you got that?

Mr. **Pozesky**. I believe it is on page 24a. The $60 million I was referring to I believe is on page 24a of the F&E budget submission.

Mr. **Carr**. I am not looking at F&E. I am looking at research. And I see that host computer drops—doesn't drop at all in terms of its appropriation, in the appropriation summary. It is very low.

Then you get to advanced automation system, and——

Mr. **Pozesky**. The host computer is in production. We will actually be making production deliveries of that system this fall. We have transitioned that project out of R&D into implementation. That is the reason why it disappears from the research and development account.

STATUS OF TCAS

Mr. **Carr**. Maybe you and I can talk about that later on. I appreciate what you are saying, but I don't come up with the dollars you are talking about. Maybe we should chat about that later and not take up hearing time.

Where do we stand on TCAS 3?

Mr. **Blake**. TCAS 3 engineering tests will be completed in fiscal year 1986. We will put out the minimum operational performance standards the following year. That will complete our work on the TCAS 3. We will have both the standards and the models in—the operational performance standards.

Admiral **Engen**. I might add, I signed out completion on TCAS 2 yesterday. We have completed TCAS 1 and 2, and Piedmont phase 2 was signed out yesterday. I felt very good about that.

Mr. **Carr**. Well, that is progress, Admiral, but I really think that the anxiety level really isn't going to start dropping until you got TCAS 3.

Admiral **Engen**. I certainly agree. I wouldn't want you to think that we are resting on our laurels, but it——

Mr. **Carr**. But it does remain a high priority in your view?

Admiral **Engen**. Absolutely. Absolutely.

HUMAN PERFORMANCE RESEARCH

Mr. **Carr**. Okay.

One of the things that—seems to me that from year to year I hear rumblings around the community that the human performance research just doesn't get relegated to a high enough priority.

Do you have any response to those kinds of rumblings?

Admiral **Engen**. Yes, sir, I do. We are doing a lot of work and study and analysis in the safety sector on human performance. We are working with NASA at AMES. They have done good work. As well as, we are using human engineering principles when we look at certification of new cockpits and new concepts.

Clearly, if we are to make progress in aviation safety we have to look at human performance. I would categorize it as the major area where we can find the most improvement now in the way of preventing accidents. People cause accidents. They don't just happen.

What we need to do is really look at the human factors, and that could be an air traffic controller, a pilot, a mechanic, and it can be a CEO of an airline.

COCKPIT HUMAN FACTORS PLAN

Mr. **Carr**. In 1985, you published a cockpit human factors plan, January, a little over a year ago.

Where have you gone since? I think you have begun to address some of these things, but I am worried, with a dropping R&D budget——

Mr. **Blake**. We have a number of activities underway. One was specifically addressing human factors aspects of the introduction of TCAS into the cockpit. We have efforts with NASA AMES mentioned a moment ago, looking at introduction of all the new systems into the cockpit. We have had two programs looking at cockpit workloads and developing a quantitative measurement criteria for that. One of those is aimed at single-pilot IFR situations, and the other is aimed at the transport crew problems and will provide the criteria needed in the design and integration of these new systems for both general aviation and other areas.

We have had programs that address specific issues. One of them was improvement in the warning and alerting systems in the cockpit. And we carried that to a second phase, which we call the flight phase monitor, which was looking specifically at how we might inform the pilot of the exact state of the aircraft when there had been major catastrophic failures, to provide him the sequence order, the steps that would be needed to preserve the aircraft, and then gradually take him back to normal checklist.

So, there has been a broad spectrum of activities in the pilot area.

As a part of the advanced automation program, we have had a fairly extensive set of discussions and perhaps simulations where we have actually brought in controllers from the field and sat them down at future console designs and gotten their input into the actual design of these consoles. We also involved them in the design of some of the future automation, so-called advanced automation program, and gotten their input on how these new functions should be designed and implemented in the advanced automation era.

So, there is a fairly broad spectrum of human factors activities underway.

AUTOMATED AIRCRAFT SYSTEMS

Mr. **Carr**. Are you investigating the problems inherent in the potential for failures in automated aircraft systems?

Mr. **Blake**. Yes. I think that was a major part of our flight phase monitor program, and it was to look at what level of detection we needed to put on the aircraft in order to recognize the type of failure and provide the proper guidance to the pilot—first of all, what the failure was, and what the recovery procedures would be.

Over and beyond that, we have some specific programs that address some of the problems that are inherent in some of the newer control systems, fly by wire, for example, and also carrying that farther into the impact of external environmental radiation and the effect it would have on such systems.

Mr. CARR. One came to me in a highly personal experience, but I had heard pilots complaining even before—never thought I would witness it—but you have some of these new state of the art aircraft, say a 757, just really a computer with wings, relatively easy to fly in a two-pilot configuration, as long as everything goes according to plan. When they get into the terminal area, if the planned runway is suddenly unavailable or some other such contingency, the pilots tell me that it becomes one of the heaviest workload airplanes in the sky.

That forces them either to a great load of reprogramming the previously set computer configurations, or in fact knocking off the computer and flying under some more traditional modes of navigation and control. And, at that point, the pilots say it is not a two-pilot aircraft.

Mr. BLAKE. I have flown the 757 simulator and am familiar, of course, with putting the entry of the route at the beginning of the flight and the difficulties of changing it. But that is not unique to that aircraft. I think that is unique to any air navigation system, and it is one of the problems that we have been working, particularly as we go to area type of navigation systems, Loran C, and later on the GPS system. And we are continuing to see what improvements can be made in loading those route changes.

But I would say for that airplane that it is not terribly difficult to switch back to a standard navigation mode if you do get a set of clearance changes in the terminal area.

Admiral ENGEN. I wouldn't want to argue with whomever said that. I would accept that. I have flown the 767 into and out of Seattle and to Moses Lake. I think what you are talking about is appropriate in that the pilots manage the airplane more than fly it. When I finish flying, I feel like I have managed the systems.

I think what you are saying, Congressman Carr, is that you can become lulled into a false sense of security by the automation that is there before you, and when you are denied that automation or you have to change the tempo of your workload, the workload goes up. I think that has to be taken into account.

Speaking in the long term, I am not concerned about this in the current generation of pilots. They are adapting extremely well, and they have a wonderful background of experience. But if you think about these pilots' sons and their sons, and if you become used to that automation, and then you are given the problem you are talking about, yes, that may be indeed a problem down the road.

Mr. CARR. I might also say that the problem that I—by chance, I witnessed—was not an en route change; it was a very rapidly changing situation in the terminal, low and slow, and the pilots were superb, Northwest Airlines pilots, and changing our runway at an inopportune time put a tremendous amount of stress into that cockpit. We talked about it later on, and they said this happens relatively frequently, and it is no fault of anybody on the ground. If an ILS goes out, it goes out.

But the fact remains, when you fly on the assumption of advanced planning and advanced information largely stored on computer chips, and then that is not there—and they made the same comment—in this particular instance they didn't have time to reprogram, Admiral, and they went and flew the old way. They admit that after a long, long flight, and you are descending into a terminal area, and you suddenly have to go back to doing things you might not have done for a while, it is very stressful for them.

Admiral ENGEN. Just to exacerbate the problem a little bit, there is even talk about a two-man crew on 747s. I don't want to get into the two-man, three-man crew concepts.

Mr. CARR. I wouldn't want to, either. And I think under a lot of situations a two-man crew makes a lot of sense. But I think to some extent we can outsmart ourselves with all this technology, and that is why I want to make sure that the human performance research, that piece of that R&D budget that doesn't have all kinds of glits and glitter and sexy this and that, and the other thing, but is really looking at the human-machine interface, is not relegated to some low priority level.

I know in your command it wouldn't be low priority ever. I think that human factors R&D ought to always be a high priority in R&D, because there will always be a new gizmo we will have to adapt to from the standpoint of human beings. So that is very important.

Another item that creates a lot of pilot anxiety is seeing the end of a runway coming up and trying to bleed off speed real fast, particularly when you are on snow and ice, and all you have is the subjective judgments of the guy who stopped before you, and you don't know exactly where he touched down.

You have got a program dealing with runway friction measurements. Can you tell me where that is standing?

RUNWAY FRICTION MEASUREMENTS

Mr. BLAKE. We have been taking data for the past few years in two aircraft and a variety of ground vehicles. NASA's 737 and our 727 have been involved in these tests. We have taken the full range of weather conditions, from dry to wet to slushy, all the way up to snowy runways, and at various depths. We have tested both the aircraft stopping performance and also what the various ground vehicle performance has been, and this data is currently being reduced for us at NASA-Langley.

We hope to have their final conclusions some time later this year.

Mr. CARR. Will that end the project?

Mr. BLAKE. We will have enough data, I think, at that time, yes.

Mr. CARR. Is that data going to be able to be interpolated to other aircraft?

Admiral ENGEN. Yes.

Mr. **Blake**. I think we can draw enough conclusions from that, yes. I don't think it will be necessary to fund additional flight tests or landing and take-off tests.

Mr. **Carr**. Would it be advisable to test that hypothesis by generating some numbers for a 767 and actually taking a couple flight hours and seeing if your projection actually was predicted?

Mr. **Blake**. I think we want to look at the data we have taken and see what correlation under the various runway conditions can be made between surface measurements on the two aircraft we have tested before we try to do any extrapolation on that. We won't see that total data package for several months yet.

Mr. **Carr**. By the time you appear before us again, would you, in the affirmative, render an opinion on whether you believe that a test of your predictive powers is indicated or not?

Mr. **Blake**. If it looks like we can do prediction with some accuracy, we certainly will, yes.

Mr. **Carr**. I think as part of your submission to us, I would like to see that you have looked at that question and you find that you don't want to go ahead with additional testing of your predictive powers, and based on something or other, or indeed you come back and you want a few more—I am just thinking about the other type aircraft situation.

Mr. **Blake**. Yes.

FAA LIABILITY

Mr. **Carr**. I am trying to get on to this liability thing again a little more here.

Do you have some information for us over the past, say, two to three years, the number of times you have been named as a defendant, the FAA, you, et cetera? I am looking for gross numbers.

Admiral **Engen**. Mr. Ellett?

Mr. **Ellett**. I would like to provide it for the record. It is an extraordinary number of times. We are generally involved in a significant aircraft accident, and our exposure is significant.

I would like to provide it for the record because it changes daily.

Mr. **Carr**. Inasmuch as you provide it for the record, would you go back over the last, say, 10 years?

Mr. **Ellett**. I would be happy to.

Mr. **Carr**. And provide us with the gross number of cases, gross number of damages claimed, the amount of damages claimed, perhaps statistical analysis of how the cases were disposed of, what kinds of—if you can, some research into the types of causes of action? I would like to know if you detect anything by way of a, what I might regard as forum shopping.

Mr. **Ellett**. Yes.

[The information follows:]

Complete figures are not available for the past 10 years; however, figures for the past 5 years are available. Those figures reveal that for fiscal years 1981 through 1985, a total of 1,690 claims were filed with the FAA for an average of 338 claims per year. The highest number of claims filed in any of the 5 years was in FY 1983, when 411 claims were filed. The total dollar amount demanded during those 5 years exceeded $43 billion, with $21 billion being demanded in 1984 alone.

Our records indicate that during the same 5 fiscal years nearly 1,000 complaints were filed in the various U.S. District Courts. The FAA's Chief Counsel, E. Tazewell Ellett, has never been named a defendant in any complaint. The complaints arose out of 179 different aircraft accidents, with a total of over $25 billion being demanded.

As to the claims and complaints filed, many of them are still pending, and it must be remembered that both claims and complaints are typically not filed for a year or even 2 or 3 years after the aircraft accident itself. Therefore, no assumptions can be drawn from the fact that more cases were filed in one year as opposed to another, or from the fact that more in terms of dollars were demanded in one year as opposed to another.

With respect to the amounts paid, again the figures we have are kept by fiscal year and they relate to claims or complaints settled or determined by adverse judgment in any given year. For the most part, they bear no relationship to the number of claims or complaints filed during the same year. For example, a claim which is settled in 1985 may have been filed in 1983 or 1984. A complaint settled or decided by adverse judgment in 1985 may relate to an accident which occurred as much as 8 or 10 years before. With that in mind, our records reveal that for FY 1981-1985, a total of just over $25 million (v. $43 billion) was paid in settlement of claims, and a total of just over $33 million (v. $25 billion) was paid by way of settlement or adverse judgment in cases in litigation.

PENDING CLAIMS

Mr. CARR. I want to begin to build a statistical base for knowing exactly what—Tom has just given me some figures.

Last year, apparently your total of claims for that—pending claims—was $10 billion.

Admiral ENGEN. Yes.

Mr. ELLETT. It has been as high as $50 billion in recent months. It is a significant amount of money.

We will provide it, but it does change drastically rather quickly. Obviously, that is a misleading figure because our payout is nowhere near that amount. We have a fairly good record in terms of settlements.

[The information follows:]

So far in FY 1986, a total of 145 claims and 70 complaints have been filed. They arise out of 23 different aircraft accidents. Those claims and complaints, when added to the totals for those outstanding from prior years, result in a total of outstanding demands of $41,241,990,227.00.

LIABILITY LITIGATION

Mr. CARR. I understand you do, but I think in terms of—well, let's put it this way. I am an attorney, but I am almost over it, and I have gotten quite exercised over the notion that some attorneys would turn liability litigation into their own unique exclusive future market on what a court will do.

And I think that approaching the liability side, Larry, from the standpoint of government exposure here, wanting to be fair to damaged people, but also wanting to make sure that the system isn't exploited for the benefit of a very few at an incredible burden to everybody else, that the data that you could provide—and working with you, Admiral, on this particular aspect will have a very positive impact on the product liabilty side, which is not your problem.

I also view that if the product liability legislation that has been introduced by Congressman Glickman and myself were to be successful, if we don't attack the whole problem, your liability exposure is going to increase, because they will find that if there is a limitation on one side they are going to go try to find another deep pocket someplace, and that is going to be an appropriated fund.

So, given what you said and your attitude, I know it is going to be an extra burden on your office to do this extra research for us.

But we are trying to build a case here that will have a salutory effect on the liability question, without trying to prejudice the legitimate claimant.

But it seems to me that in an area that is so heavily regulated from the standpoint of design, R&D, manufacture and operation, and every conceivable certification, the high standards that we try to meet, that people seeking liability award shouldn't be able to take a bite of both ends of the apple.

And people in the middle are really getting caught, and I do disagree with you that this is something different than water heaters.

I know that there are liability problems up and down the spectrum, but nobody regulates the manufacture of water heaters, to the best of my knowledge. Nobody has to get certified to build and maintain a water heater.

The industry has already subjected itself to standard liability in the cause of preventative maintenance.

And we know things break down and some people have to be compensated. But treating the whole aviation system as if it were a water heater or something else—I know you didn't mean that.

Admiral ENGEN. Thank you.

Mr. CARR. I would like to get your help on that.

Admiral ENGEN. Yes, sir. I will give you a willing yes.

Mr. CARR. I know it will burden your counsel's office a little bit.

Incidentally, when these things happen, do you handle those cases or how do you interface with the Justice Department?

Mr. ELLETT. The Justice Department handles the cases, and we work closely with them.

Mr. CARR. Do they have a section in the Justice Department that is FAA smart to handle these?

Admiral ENGEN. Yes, there are a couple of sections we deal with.

Mr. CARR. Maybe you can help me get acquainted with those sections. They are appropriated out of my other subcommittee, and I will get at them there.

Thank you, Mr. Chairman.

Mr. LEHMAN. Mr. Wolf.

SECURITY AT NATIONAL AND DULLES

Mr. WOLF. Maybe you want to elaborate for the record without going into great detail here.

Could you sort of give me in writing or have somebody come up and tell me about the security at National and Dulles?

Admiral ENGEN. I would be very pleased to.

[The information follows:]

Because of the sensitivity of this, FAA will provide a briefing to Mr. Wolf.

FOREIGN COUNTRY TRAVEL

Mr. WOLF. What about boycotts of countries that are dangerous or travel bulletins? Why don't we do more of that?

Admiral ENGEN. That is a function of the State Department, but it can be driven by the International Security and Development Act of 1985 which requires the Secretary of Transportation to say when a particular airport is not complying with the security regulations.

So, in a sense, we can trigger that, and we would do so.

Mr. **Wolf**. But has it been triggered?

Admiral **Engen**. It has not.

Mr. **Wolf**. If it has not and we are seeing what has gone on, might it not be appropriate to begin triggering it?

Businessmen will trade with our arch enemy sometimes to make a dollar.

The dollars drive it. So, if you are talking about a country where there is a problem, an economic boycott of that country sends a message more than a State Department briefing does.

So, might it not be good to pick one or two where there is a justifiable reason to say we are going to put a travel bulletin out; boycott a country; tell our citizens, "Don't travel there"?

Admiral **Engen**. That would be effective, but you have gone considerably past my job description.

It basically sits in the Department of State.

Mr. **Wolf**. I understand, but you are the only one in front of me. I want to begin with you.

If you have somebody else I could talk to later, I will be glad to do it.

You are here. You are head of the FAA and——

Admiral **Engen**. And I am not Alby Bige, but I have to stay in my position.

Mr. **Wolf**. Are there any countries that you think we should cut off today if it were your position?

Admiral **Engen**. I think we have cut off two, Lebanon and Libya.

Mr. **Wolf**. I hope so.

Admiral **Engen**. In addition to that, the airports in the other countries are under surveillance on almost a daily basis. We are monitoring them, but we have not implemented the act in their cases.

But we wouldn't hesitate to do it at a moment's notice.

Mr. **Wolf**. Well, I think we should look into that. If you could furnish more for the record on how we could look into that—I know it is not your direct responsibility.

[The information follows:]

Public Law 99-83, International Security and Development Cooperation Act of 1985, dated August 8, 1985, requires the Secretary of Transportation to conduct assessments of the effectiveness of the security measures maintained at foreign airports. When the Secretary determines that security measures are not effective, sanctions provided for in Public Law 99-83 can be implemented.

PRE-EMPLOYMENT VERIFICATION

Admiral **Engen**. I am not ducking it or being smart.

Mr. **Wolf**. I think the Chairman raised a good question on the personnel and background checks.

If you could elaborate more, you had the one airline whose employees were potentially involved in drug transportation.

I think—let me ask you for the record.

What does El Al do with regard to background checks for employees that we don't do?

Mr. Broderick. Billy is not here, but I can—we can provide you with whatever information we have.

We do not have the authority to require criminal background checks, for example. That is included in the legislation the Secretary forwarded here to provide that authority.

What we require now is pre-employment verification, as a minimum, of past jobs held over the past five years for employees who have unrestricted access to secure areas on an airplane.

Mr. Wolf. It particularly hasn't worked with regard to drug smuggling because we have some individuals who were involved, and I guess they are innocent—they haven't been found guilty—airline employees involved in drug smuggling.

Mr. Broderick. The legislation—the regulation that we have implemented just started as of November 1, 1985. For employees hired as of that date the background checking occurred.

Of course, you are right. I don't think you can figure out who will be and who will not be involved in criminal acts from that kind of a check or a criminal background check.

Admiral Engen. The Privacy Act is a consideration, as well.

Mr. Wolf. Well, if they want to hire somebody——

Mr. Broderick. It is not clear that anyone who has no criminal record is therefore free from having a future criminal record.

Mr. Wolf. I agree.

Well, maybe you can elaborate more in the record.

[The information follows:]

There is a background check for all Federal Aviation Administration employees. The extent of the background check is determined by the sensitivity of the position of the employee. As a minimum, a National Agency Check (NAC) is conducted for all employees. The other extreme is a special background investigation (SBI) which includes a 15 year employment history check and includes interviews of references and other persons who have had contact with the employees.

In November 1985, the FAA amended the airports and security programs to require that background checks be conducted on all employees with unescorted access to secured areas on airports. The checks must, at a minimum, verify representations made by the employee or applicant for employment relating to employment in the preceding 5 years.

SECURITY INSPECTIONS

Mr. Wolf. Do you make an attempt to break your system?

Admiral Engen. Yes, we do. We test the system on an irregular basis.

Mr. Wolf. Do you have somebody that looks like J. Q. Public with a camera and a bag——

Admiral Engen. Let me have Mr. Broderick respond.

Mr. Broderick. We have special—we have actual weapons that we use and attempt to carry through.

We have various devices that either would be useful in a hijacking or sabotage case which we carry through airports all over the country and try to penetrate them or break through.

And if we are successful, we investigate why and take appropriate action.

Mr. Wolf. It would be interesting to know where you have tried it and where you have been able to get through.

Admiral Engen. We can provide that, sir, because that comes in my weekly brief that I get on the U.S.

[The information follows:]

Federal Aviation Administration security inspections "test" all aspects of the security system to ensure the air carriers and airports are properly implementing the provisions of their security programs.

ENFORCEMENT

Mr. **Wolf**. I can ask you more in depth, but when you find somebody that has violated law, are the prosecutions tough and aggressive or do we need tougher laws?

Mr. **Broderick**. I think the record that we have established in the last couple of years is one that is very tough, very aggressive, I hope fair and uniform.

Admiral **Engen**. When it comes to enforcement, we can be fair and tough and uniform.

Oftentimes if that goes to a criminal court, it is a different matter, but we try to be as resolute as we possibly can, Congressman.

Mr. **Wolf**. Thank you very much.

QUESTIONS SUBMITTED FOR THE RECORD

Mr. **Lehman**. Thank you, Mr. Wolf. I have a few additional questions for the record.

AIRPORT SECURITY

I believe, Mr. Engen, that you met with key airline and airport officials on February 20 to discuss security issues? Do you see the need and, if so, do you have plans for follow-up consultations with the airports and airlines?

[The information follows:]

Yes, DOT/FAA and other interested government agencies met with airline/airport Chief Executive Officers to discuss current terrorist threats and possible implementation of security measures. Meetings were held April 8 and 10 and national telecons with industry were conducted April 4 and 17 to discuss further security measures as they relate to the existing threat. Where necessary, FAA will not be reluctant to request similar type meetings in the future.

Mr. **Lehman**. I understand that the DOT has proposed legislation and FAA and Customs have already issued regulations on background checks for airport personnel. Do you coordinate with Customs when you issue new regulations?

[The information follows:]

In November 1985, the FAA amended the airports' and air carriers' security programs to require that background checks be conducted on all employees with unresolved access to secured areas on airports. The checks must, at a minimum, verify representation made by the employee or applicant for employment relating to employment history in the preceding 5 years. These rules did not apply to Customs Service personnel, and the amendments were not coordinated with Customs. In February 1986, Customs adopted interim regulations requiring that all persons with unescorted access to Customs security areas have background checks and display a special Customs identification. The Customs security areas, in general, are within areas which are secured under FAA rules. Customs staff consulted FAA security staff prior to adopting this rule. The FAA has filed a comment supporting Customs' interim rule, except that, apparently by oversight, it purported to give Customs officials the authority to deny access to FAA security inspectors and require the FAA to report to Customs regarding background checks on inspectors. FAA and Customs staff frequently meet to discuss matters of mutual interest.

Mr. LEHMAN. Do you believe that airline and airport employees should be screened in the same way that airline passengers are screened in the concourse areas?

[The information follows:]

If airline or airport employees are boarding the airplane as passengers, they are required to undergo the screening which is mandatory for all passengers. However, working airline/airport personnel are required to enter and depart frequently the sterile area. Procedures have been established by issuance of valid I.D. cards to maintain the overall security of the area.

Mr. LEHMAN. I understand that FAA sponsors an explosive detection dog training program for local airports which entails a one-man, one-dog approach. We understand that the one-man, one-dog method is very expensive for the local law enforcement agencies. Has consideration been given to adopting another, more cost-effective training method? Should FAA reimburse localities for this program?

[The information follows:]

Currently we know of no other training method. Repetitive training is the only way to maintain a K-9 teams proficiency.

The FAA does fund the initial cost of the program, e.g., buys the dog, trains the dog and handler, pays travel expense. Since the K-9 team is beneficial to the local community, the expenses for maintaining their proficiency should and is passed on to the concerned locale.

AIRLINE LIABILITY INSURANCE

Mr. LEHMAN. I just wanted for my own satisfaction to get some idea on something that Mr. Carr was talking about.

Does an airline have to carry liability insurance?

Admiral ENGEN. I don't think it is required by law, but they are indeed liable and they do it per force.

Mr. LEHMAN. If you were a start-up airline for a commuter and you started with a net worth of a million dollars and the insurance costs went up, they would cancel your insurance. However, you could keep on flying, and if you have a crash and the claims exceeded your net worth, you could go into chapter 11 and keep flying.

Admiral ENGEN. Yes, sir.

Mr. McDaniel might be able to respond.

Mr. MCDANIEL. Those determinations in terms of economic fitness are made by the Office of the Secretary who takes such things into consideration.

The FAA does not become involved, but I believe that the standards which they establish assure them that there is a reasonable and responsible economic operation of the airline. While a funding of fitness can be made without insurance, the Office of the Secretary conditions operating authority on presentation of insurance.

AIRLINE FINANCIAL FITNESS DETERMINATION

Mr. COUGHLIN. A follow-up on that.

Do you recommend to the Office of the Secretary that where a carrier does not have insurance that the airline be cancelled?

Admiral ENGEN. The determination of financial fitness went from the CAB function to the Secretary.

We work closely with the Secretary. When an organization wants to become an airline the Office of the Secretary and the FAA begin talking.

This is not done out of context. We work together as they determine the financial fitness.

That, then, is treated as their fitness to operate, which comes directly under Mr. Broderick. We get into the depth of the management, how much experience they have, what their training program is like, what their maintenance program is. That is when we get into it.

Mr. **Coughlin**. But do you make recommendations if they don't have insurance?

Admiral **Engen**. I wouldn't hesitate in looking at an airline that was in dire financial straits to pull the ticket temporarily myself while we worked it out with the Office of the Secretary.

I think if you see a problem like that you need to move fast, and we have in the past.

Mr. **Wolf**. Does that mean that there really are airlines flying—

Admiral **Engen**. No, sir. It is possible.

Mr. **Broderick**. I am not sure that that is true.

Mr. **Wolf**. I thought I heard you say that there are airlines in Alaska flying.

Admiral **Engen**. There are; Part 135 operators in Alaska are flying today without insurance.

Mr. **Wolf**. When a passenger boards or purchases a ticket, are they given this information?

Admiral **Engen**. It is air frame insurance.

I am sorry. To make the record straight, the requirements for insurance, if any, are under the jurisdiction of DOT. The FAA regulations do not have insurance requirements.

FEDERAL TORT CLAIMS ACT

Mr. **Lehman**. Yes, I think we have to clear that up, about an airline flying without adequate liability insurance to protect its passengers.

Mr. **Coughlin**. A brief question, Mr. Chairman.

Last year in the continuing resolution—talking about liability of the FAA and the government, we enacted a very curious provision to indemnify the people who publish charts for use in aviation.

Did you repeal that?

Admiral **Engen**. What was the question?

Mr. **Coughlin**. We passed a provision that provides the Federal Government will indemnify the people who publish charts for use in aviation.

Have we had to pay up on that indemnification?

Admiral **Engen**. We have not at this time had to do it. It gets rather finite, down to the point where the U.S. Government has provided the wrong information to those people, and they have published that wrong information. Then the liability comes back to the FAA.

It is that finite. It is not just blanket. I got into this in some detail and went up and talked to those people myself.

Mr. COUGHLIN. Are there any pending suits on that indemnification?

Mr. ELLETT. Not to my knowledge.

Let me just mention the policy consideration.

I think the issue is, we have in place a Federal Tort Claims Act. That is generally the basis for suits against the government.

And the real question is whether there should be created by separate legislation an additional avenue of suing the government that might not be allowed under the Federal Tort Claims Act which was intended to be a comprehensive look at that issue.

That is the policy consideration that the Congress really needs to be looking at.

Mr. COUGHLIN. Thank you, Mr. Chairman.

HAZARDOUS WEATHER INFORMATION

Mr. LEHMAN. We understand that the GAO has just completed a report to the House Science and Technology Subcommittee on Transportation, Aviation and Materials.

It says that there is little or no real time, hazardous weather detection capability at major airports now, and that controller workloads do not allow the timely dissemination of National Weather Service and FAA reported weather warnings to pilots at those facilities.

Do you agree with these conclusions?

Admiral ENGEN. I would like Mr. Blake to respond to that, Mr. Chairman.

Mr. BLAKE. The FAA has reviewed the GAO report, and I would like to just make a few statements about it that relate to their conclusions.

With regard, particularly, to the comment about no real time weather information, as you know, the FAA currently has a low level windshear alerting system at over 70 airports and are increasing that to 110 airports within this next year.

This system provides real time information on hazardous windshears on the airport area.

This information is disseminated by controllers whenever the windshear warnings are generated by the low level windshear alerting system unless, of course, the major hazard is in the terminal area.

Forecast information and center weather advisories on severe weather are being disseminated on the Hazardous Inflight Weather Advisory System which we have implemented at three centers so far: the Jacksonville, the Miami, and Houston centers.

And the fiscal year 1986 funding that we have received will allow us to expand the service nationwide to all centers during 1987.

The information available from this system includes both forecasts of severe weather convective activities and real time advisories which are generated by the meterologists at the center weather service unit.

These advisories are broad and cover the general geography, both route and terminal.

Another source of hazardous weather information available to the pilot is the Enroute Flight Advisory Service, and the flight station specialists at these positions are providing real time advisories to the pilots about hazardous weather existing along their entire route, including the terminal area.

This past year we have been working with the National Weather Service to determine the feasibility for providing additional real time hazardous weather data to control tower and approach control facilities.

This was recommended to our attention by the National Academy of Science and by the Congress.

Use of the displays of existing National Weather Service radars by controllers in the tower was examined at several control towers in 1985 and indicated that insufficient data was available to identify the hazardous weather phenomena existing within the precipitation contours vale on the displays.

We are continuing discussions with the National Weather Service to determine whether they can, using other weather information, provide us with hazardous weather contours on such displays.

Of course, the real solution to providing the hazardous weather data is the implementation of some of the major NAS plan programs, particularly NEXRAD, Terminal Doppler, and the Central Weather Processor which is the key to dissemination in real time of these products.

WEATHER DETECTION

Mr. **Lehman**. Would you provide for the record a description of the NAS projects designed to provide real time, or near real time, hazardous weather detection at major airports, their cost, and their most current implementation schedules?

[The information follows:]

THE HAZARDOUS IN-FLIGHT WEATHER ADVISORY SYSTEM (HIWAS)

This system is operational in three air route traffic control center areas. In 1986, an F&E contract was awarded for procurement of the recording equipment needed to implement the system nationwide during 1987. This system provides forecast information on severe weather in the form of SIGMET's and current information on severe weather hazards in the form of Center Weather Advisories. This information is generally broadcast over VOR frequencies. The estimated F&E cost of this program is $7.1 million.

THE NEXT GENERATION WEATHER RADAR (NEXRAD) PROGRAM

This program will provide improved weather radar coverage of the Nation's airspace. In addition, it will provide additional information about the atmosphere which will result in more accurate, timely, and quantitative hazardous weather information for pilots.

The NEXRAD Program is now in the prototype test phase. These tests will be completed during FY 1986, and contract award for the limited production systems is expected in January 1987. The limited production will provide 10 units and the full production 162 units. The production release for the 162 units is currently expected in January 1983. System deliveries will occur starting in January 1989 with the last unit installed in September 1993. Total F&E program cost is $214.5 million.

THE TERMINAL DOPPLER WEATHER RADAR (TDWR) PROGRAM

This program will provide protection to aircraft operating in the terminal area from inadvertent encounters with wind shears including microburst.

During FY 1986, the two NEXRAD contractors conducted design studies for a terminal version of the NEXRAD System. Two of the limited production NEXRAD Systems will be delivered with the terminal modifications in place. The remaining 13 terminal NEXRAD's will be delivered as part of the production contract. Deliveries are expected in 1989 through 1991.

During 1985, the FAA tested a prototype of the TDWR at Memphis, Tennessee. This program resulted in the definition of technical parameters, including scanning strategies and types of displays and initial testing of the automatic detection and warning algorithms. In the fall of 1985, the system was moved to Huntsville, Alabama, and will be used during 1986 for further development and testing of the automatic detection and warning algorithms which will ultimately provide microburst warnings to tower controllers. The FAA radar will be operated in conjunction with Project MIST which is a joint program of the National Science Foundation and the University of Chicago to study microbursts and severe thunderstorm activity in the humid southeast part of the United States. FY 1987 activities will include further testing of the terminal Doppler radar prototype concentrating on the resolution of operational issues.

The program schedule calls for a competitive contract award in June 1988 with the first system delivery in December 1991. Final system delivery will depend upon the number of systems procured. Total program F&E cost for 102 systems is $550 million.

THE LOW LEVEL WIND SHEAR ALERT SYSTEM (LLWAS)

Implementation of the LLWAS at 110 sites is being completed. Total F&E cost of this portion of the program is $24.8 million. R&D leading to definition of an enhanced system was conducted during FY 1986. The enhanced system will have additional sensors for improved processing, data recording and archiving, and improved display formats. Wind shears will be reported in along runway and across runway components. We believe this format will be easier for pilots to use. A contract award for enhanced systems at 110 sites is currently scheduled for February 1988 with delivery scheduled for the period 1990 through 1992. The estimated F&E cost of this portion of the program is $26.0 million.

THE CENTRAL WEATHER PROCESSOR (CWP)

Development of the CWP is continuing. This system accepts information from the NEXRAD radars and meteorological products from the National Weather Service and provides processed information to meteorologists, controllers, and pilots. The meteorologist uses the information to prepare aviation short-term forecasts and severe weather advisories. In addition, the meteorologist generates graphical products identifying weather hazards. The processed products generated both by the meteorologist and by the automatic algorithms will be provided to the controller through the Advanced Automation System as an overlay on the air traffic control display and to the pilots via the Mode S data link.

This system is currently in the preliminary design review stage of the full-scale development phase. This phase will result in a prototype which will undergo operational testing and evaluation. A production decision will be made in May 1990 with system deliveries from January 1992 to September 1993. The estimated total F&E cost of this program is $96.7 million.

MODE S/DATA LINK

The initial Mode S/data link service will provide pilots access to weather data bases directly from their cockpits. This service will be available beginning in 1988 with full coverage by 1994. The total estimated F&E cost of the Mode S/Data Link System is $456.5 million. Approximately one half of this cost is attributed to the data link portion of this system.

WEATHER COMMUNICATIONS PROCESSOR (WCP)

The WCP will act as the interface between airborne Mode S data link equipped aircraft and pilot desired weather products resident in the NAS. Implementation is planned for 1989 and 1990. The estimated cost of this program is $10.2 million.

Mr. LEHMAN. How will the NAS Plan provide increased hazardous weather detection at major airports without adding to controller workload?

[The information follows:]

The NAS Plan includes implementation of the NEXRAD, TDWR, enhanced LLWAS, and CWP Systems. These systems operating with the NWS warning and forecast office network will provide much improved detection and dissemination of hazardous weather information. The controllers, however, will continue to provide wind shear warnings to pilots when appropriate. Our long-term goal is to disseminate automatically as much of the hazardous weather information as possible and, thus, gradually reduce the controller involvement in the dissemination of weather information.

NAS IMPROVEMENT PROGRAMS

Mr. LEHMAN. Exactly what kind of hazardous terminal area weather data will be developed and how will NAS technological improvements enhance the timeliness of hazardous weather dissemination from air traffic controller to pilot?

Mr. BLAKE. Implementation of the NAS improvement programs that I mentioned provide for the real time detection and identification of hazardous weather, including microbursts, downbursts and gust fronts, as well as other hazards, such as tornados, hail, and severe turbulence conditions.

And the real time dissemination will be either through Mode S or voice services from the controller.

Mr. LEHMAN. What is the status of the Central Weather Processor (CWP), WCP, and Mode S/data link implementation and the integration of these systems?

[The information follows:]

A prototype of the CWP will be available for testing in 1989. Implementation of this system is scheduled for 1992. The Weather Communications Processor development is planned to start in FY 1988 with availability in the 1992 time period. Mode S data link will be implemented simultaneously with the installation of the Mode S systems. This implementation will start in 1989.

CENTRAL WEATHER PROCESSOR

Mr. LEHMAN. I believe that current schedules for the CWP indicate that it will be operational in the mid to late 1990's and Mode S sooner.

What are the planned data sources for Mode S until CWP is operational?

[The information follows:]

Initial data sources for weather information will be from the Automated Flight Service Station computers and the Automated Weather Observing System.

DATA LINK

Mr. LEHMAN. I believe that you have recommended that data link be purchased voluntarily by owners and aircraft.

Without data link, how will these pilots obtain certain weather information without involving the air traffic controller, and what would such a dual system imply for controller workloads?

[The information follows:]

In addition to weather services available by data link, the FAA will continue to operate several automatic voice dissemination services. These include the Automated Weather Observing System, the Hazardous In-Flight Weather Advisory System, and the En Route Flight Advisory Service. It is our objective to disseminate automatically as much of the weather information as possible and to gradually relieve the controller of the workload associated with dissemination of weather information. We believe pilots will come to appreciate the versatility and speed of the data link services and will use them as a matter of preference.

AWOS

Mr. **Lehman**. What are your siting strategy/benefit-cost justifications for locating 110 AWOS at non-towered facilities, and what is planned for towered facilities?

[The information follows:]

The detailed answers to this question are addressed in a 1983 FAA report entitled "Establishment and Discontinuance Criteria for Automated Weather Observing Systems (AWOS)." The following excerpt from that document summarizes the approach taken:

"Establishment and discontinuance criteria for AWOS at non-towered and non-federal towered airports are two-phased. Phase I criteria are simple, generalized criteria designed to initially identify potential candidates. Under Phase I a ratio value is computed by summing the benefits provided to each user class and dividing the sum by the life-cycle cost. If the ratio value obtained is equal to or greater than the thresholds specified below, the airport becomes a candidate for Phase II screening. Phase II is a site-specific computerized life-cycle benefit/cost evaluation of candidates identified in Phase I using the techniques described in this report."

The benefits considered at nontowered airports are safety, efficiency, and proximity to or remoteness from a nonautomated FAA/NWS or NWS contract surface weather observation station.

The question mentions 110 nontowered AWOS's. We currently are planning for a total of 441 of these installations.

The plan for towered facilities is being revised at this time. Since NWS takes the observations at approximately 225 of our towered locations, it appears that a joint procurement for these facilities would be the most cost-effective approach. We are working with the NWS and the DOD through the Office of the Federal Coordinator to define this program. At this time, the towered facilities program has been moved to the post-1992 time period. This is because sensors which would enable us to eliminate the human observer's role completely have not been proven. By 1992, these sensors should be proven and/or the efficacy of machines doing constant weather watches will be better understood and accepted, thus, allowing us to eliminate human intervention except in emergencies.

Mr. **Lehman**. How will weather information be coordinated for air traffic controller use?

What radar information do you plan for the air traffic controller to use?

Are they duplicative in terms of weather information available to the controller?

[The information follows:]

Weather information provided to air traffic controllers in the Next Generation Weather Radar/Terminal Doppler Weather Radar/Central Weather Processor era will generally be coordinated through the CWP. An exception to this is the wind shear warning from a TDWR which will go directly to the tower as well as to the CWP. The CWP will generate the hazardous weather contours which will be displayed on controller displays. Since the CWP contains a meteorologist work station, there is a capability to annotate and/or enhance the contours where appropriate.

Both the NEXRAD and the TDWR's will be used by the controllers. There will also be limited access to air traffic control radars for backup, and in some remote areas the air traffic control radar may still offer the only radar weather information.

What duplication may exist is considered necessary for the safe and efficient movement of air traffic, particularly since the network NEXRAD's will be single channel radars. The source of the weather information displayed on a controller's display should essentially be invisible. There will be obvious differences when the only source is a non-Doppler air traffic control radar.

Mr. **Lehman**. How and when do you plan to link the advanced LLWS program?

What are the problems with integrating the two systems, and what are the expected benefits?

[The information follows:]

Improvements to the LLWAS are being accomplished in an incremental manner, and we do not anticipate any integration problems. Our immediate effort is addressing the optimization of the existing six-station network. This includes algorithm changes to reduce false alarms and site-by-site validation of sensor siting. This portion will be tested this year at Huntsville with system installation starting in early 1987 and completion in 1 year. The next stage will be the acquisition and installation of data recording and archiving equipment which should be completed by mid-1988. Following this will be the task of increasing the number of sensors and futher improving the algorithms. This is scheduled for completion in mid-1990. The final task is to develop the advanced displays. An evaluation test is planned in Denver and/or New Orleans during the summer of 1987. Displays will be procured and deployed by mid-1990.

The expected benefits of these improvements are: reduced false alarm rates which will improve pilot confidence in the system; historical information will be available to assist in accident investigation and future system improvement efforts, new controller displays will enable us to tailor the system's warnings in a manner which will be more easily understood by pilots; and, finally, additional sensors will increase the system's ability to detect microbursts and, thus, provide an increased level of protection from this deadly phenomena.

Mr. LEHMAN. Are current weather dissemination procedures adequate to provide hazardous weather to pilots in terminal areas?

[The information follows:]

We believe the current weather dissemination procedures are adequate to provide hazardous weather to pilots in the terminal areas if the pilot takes advantage of the existing services. However, we also believe that improved detection and dissemination of severe weather phenomena is needed and this is the function of many of our weather programs including the Next Generation Weather Radar, the Terminal Doppler Weather Radar, and the Central Weather Processor.

WEATHER DISSEMINATION

Mr. LEHMAN. How do you ensure that current weather dissemination procedures are being followed by air traffic controllers?

Mr. BLAKE. Use of the current weather dissemination procedures are emphasized to the controllers through periodic training and is considered in the normal controller performance evaluation process, and this process is working very well to make the controllers aware of the need to disseminate the hazardous weather reports.

Mr. LEHMAN. As the scheduled technologies become operational and real time weather is available, what will the air traffic controller's role be for weather dissemination?

Mr. BLAKE. It is our goal that as this new technology becomes operational we want to provide as much of the weather data automatically or through non-controller means, such as through the flight service station special lift or through automatic dissemination systems, and to relieve the controller of the majority of his weather dissemination tasks.

Mr. LEHMAN. Who do you believe should be giving location weather warnings: NWS or FAA?

Mr. BLAKE. The weather warnings, I think, in the future will all be generated by National Weather Service Warning and Forecast Office meteorologists, or by National Weather Service meteorologists working at the center where the service position is within the control centers, and these facilities are staffed by Weather Service.

I think the improved systems, particularly the marriage of the Weather Service systems and ours, will provide for timely distribution of weather information.

WEATHER DISSEMINATION BY CONTROLLERS

Mr. **Lehman**. Will hazardous weather information dissemination become less a controller priority as traffic increases?

[The information follows:]

Controllers are required by FAAH 7110.65D to give first priority to separating aircraft and issuing safety alerts. Additional services, including traffic and weather advisories, are provided to the maximum extent possible, based upon controller judgment, and are contingent upon limiting factors like higher priority workload, radar coverage, and frequency congestion.

The need for timely traffic and weather advisories is stressed to controllers, and positive action, i.e., mandatory training, has been taken to ensure controller awareness.

Because there are many variables involved, it is virtually impossible to develop a standard list of duty priorities that would apply uniformly to every conceivable situation. FAAH 7110.65D explains to controllers that they shall exercise their best judgment based on the facts and circumstances known to them. That action which is most critical from a safety standpoint is performed first and viewed as a high priority.

Mr. **Lehman**. What do you plan to do about the conflict between heavy controller workload and weather dissemination during peak hours at busy facilities?

[The information follows:]

Busy terminal facilities use Automatic Terminal Information Service (ATIS) equipment to relieve controller workload. ATIS provides advance noncontrol airport and terminal operational and meteorological information for use by aircraft arriving and departing an airport and operating within the terminal area. It is accomplished by a controller prepared tape recording which is repetitively broadcast on a voice outlet. FAAH 7110.65D currently is being rewritten to reemphasize the importance of the ATIS.

At en route facilities Hazardous Inflight Weather Advisory Service (HIWAS) will be used to relieve controller workload. HIWAS provides both Visual Flight Rules (VFR) and Instrument Flight Rules (IFR) Very High Frequency (VHF) equipped aircraft with meteorological information on a tape recording which is repetitively broadcast on a voice outlet.

USE OF SIGMET

Mr. **Lehman**. I believe the GAO found it took an average of almost 23 minutes to read a SIGMET on all frequencies at Dallas-Fort Worth airport.

Do you believe SIGMETS are appropriate hazardous aviation weather warnings for controllers to read in congested terminal areas?

[The information follows:]

Yes. SIGMETS (Significant Meterological Information) are issued by the National Aviation Weather Advisory Unit (NAWAU) when weather conditions are deemed a safety hazard to all aircraft, and specialists are required to disseminate this information in accordance with established procedures.

HUB AND SPOKE SYSTEM

Mr. **Lehman**. Last fall an article in Dun's Business Month quoted a Wall Street airline analyst as follows:

"It has become almost a cardinal rule in airline economics that, in order to run a profitable operation, a large hub and spoke system is required."

What impact has this trend toward more hubs had on your agency's programs and activities and what impacts do you see in the future?

I think you talked about that to some extent.

Admiral ENGEN. Would you like us to say a few more words at this time?

Mr. LEHMAN. Why don't you just see whatever you have overlooked and then provide the balance for the record.

Admiral ENGEN. Okay.

[The information follows:]

The growing trend toward increased airline hubbing has placed a tremendous amount of pressure upon the air traffic control (ATC) system; not only in terms of procedures and airspace configurations but in added staffing and operational equipment as well.

Since the hubbing concept was first initiated, the FAA has continuously emphasized to the aviation industry the need for timely and accurate notification of future hub locations and plans. To date, the airlines involved have been extremely cooperative.

In order for the ATC system to effectively manage traffic at future hub locations, will require the continued cooperation of the users both in advance coordination as well as in receptiveness to scheduling adjustments to preclude excessive arrival and departure "bunching" during peak periods.

In any event, the traffic management system will match demand with capacity to ensure a safe system.

Mr. DONAHUE. The hub and spoke is a consequence of mainly the airlines not being able to do this hub and spoke out of the large participating airports, and they have found that they can now operate on a hub and spoke system and still meet the main portion of their market out of a hub and spoke operation.

I think what is going to happen to us in airports is we are going to have more applications made to us for improvements on those airports which have been selected by the carrier for the hub and spoke operation.

Mr. LEHMAN. The Admiral said that you were behind the curve on some of these operations, and that now you are working very closely with the airlines.

Admiral ENGEN. Yes.

Mr. LEHMAN. It has been suggested that your agency hold hearings on the effects of proposed new hubs and issue operational impact studies on noise levels and congestion.

What is your view of this suggestion?

Admiral ENGEN. I think we are having a series of hearings on the noise issue right now.

We haven't had anything on hubs and the issue because we have handled it operationally, but I think that it is certainly worthy of consideration.

We do go to the Air Transportation Association and talk there on a real time basis. We do go out to the Regional Airline Association and talk with those people.

So there is a continuing dialogue with the users and the industry and the FAA.

AIRPORT CAPACITY PROBLEMS

Mr. LEHMAN. In the past we have been told that airport capacity could be one of the major impediments to continued aviation growth.

It has been reported that by the year 2000, about 107 airports will have serious capacity problems.

Do you agree that this is a problem area? If so, how do you explain your proposed reduction of more than $170 million in your fiscal year 1987 obligation ceiling for airport planning and development grants?

Admiral ENGEN. Let me take that one, and, if I can, Mr. Chairman, I would like to ask Mr. Donahue to comment.

First of all, the 22 pacing airports are the ones that we must deal with capacity problems. There are roughly 350 commercial airports that we need to work with to enhance capacity.

I don't enjoy reducing the amount of support for airport planning and development grants, but we have to live within a constrained budget. We had to make very serious considerations and deliberations.

I wish to assure you that this particular problem area is foremost in our minds, and we intend to continue to develop the airport facilities which will enhance capacity.

Mr. LEHMAN. You are saying that there are only a handful of airports that have this kind of serious capacity problem?

Admiral ENGEN. Today, sir, there are five or six.

Mr. LEHMAN. But 107 by the year 2000——

Admiral ENGEN. I don't know where the figure 107 came from, but I would certainly say that with each passing year we are going to add more airports to those that have serious capacity problems, and that is a problem for the entire system.

It is an area I am devoting time to try to create within communities the desire to improve their airports. We need more airports.

Mr. DONAHUE. I think the Admiral stated it very well.

We find now that the communities, especially the large metropolitan areas, are becoming more and more aware of the economic and public benefit of airports. And in order to meet the capacity problems, they are addresssing firsthand the need for improvement, and, of course, they are able to do it with the airport revenue bonds and other forms of local and municipal financing, with some reliance on the aviation trust fund.

AIRPORT EXPANSIONS

Mr. LEHMAN. We are talking about major expansions, but someone told me, I think, that the Fort Worth-Dallas was the last major new regional jet port built in the U.S.

Has anyone built a regional jet port since Arlington?

Admiral ENGEN. No, sir, they have not.

Mr. CARR. Mr. Chairman, could I——

Mr. LEHMAN. Mr. Carr.

Mr. CARR. Along that line of questions, it will save me from asking in the future—and I certainly couldn't impune anybody's integrity—but it would seem to me that if I were an administrator faced with some of those budget numbers I was given by OMB and if I knew that one of the choke points of expansion was the airport, as you have testified, and looking downstream at my budget problem, knowing that if I expanded the capacity at an airport I was also going to have to expand all of the other capacities downstream of that decision, and that I just didn't have the money to do all that, I just might want to now put the money out for the airports.

I would just probably try to slow it down, because I just knew that I could end up with a lot of runways out there that I just couldn't finance the controllers for and the sectors for and the whole ball of wax.

It is all a system. It all fits together. And I am certainly a big fan of yours, and I don't think you are doing that.

But golly, at OMB they are just as smart, too, and I think that one of the reasons we are building up some of these big surpluses there is just because they know that there are dollar consequences for the general budget that the general fund of FAA operations—and you will have to excuse me for being cynical like that—but we really need to, somehow or other, Mr. Chairman, break this log jam and get underway.

Admiral ENGEN. That gets to the next question, Mr. Chairman.

Without jumping ahead, I would like to say in response to Congressman Carr that the basis for that ceiling, that we have set safety as the first criterion and then capacity.

We are looking at safety and capacity and how it will do the most for the entire system.

LEGISLATIVE PROPOSAL

Mr. LEHMAN. Would you expand on your post-1987 legislative proposal for the record?

[The information follows:]

The DOT and FAA have been working to formulate a post 1987 legislative proposal which includes an adequate level of resources for the airport and airway system, including AIP. We have examined a variety of AIP programs to provide these resources and still be responsive to the Federal Government's need for budgetary restraint. These options include changes in overall program levels, apportionment, and special program set asides. The focus is on meeting airport safety and critical capacity requirements. We have solicited input from aviation users at a conference to help develop a legislative package, but we have not yet settled on the best option. Trust Fund financing will be based on the concept that users should pay for services provided. This proposal will be presented to Congress in the near future.

AIRPORT GRANT PROGRAM

Mr. LEHMAN. Last year it was indicated that you were developing and analyzing various options for your post-1987 airport grant program.

What options have you considered and what type and size program do you intend to propose?

Mr. DONAHUE. The post-1987 legislation, of course, is being looked at.

I think that Dale McDaniel could help on this.

Our proposals will be forwarded to the OST, and I don't think we will get them there much before late summer.

Mr. McDANIEL. We are actively considerating that at the present time.

We have examined a variety of options, for both the airport program and the related authorization for facilities and equipment which would be responsive to aviation needs, keeping in mind the financial situation in which we find ourselves.

We discussed a number of these options with the aviation community last fall and are now in the process of formulating the final position within the Administration which, I hope, will be finished in the near future.

EXEMPTIONS FROM AIP

Mr. **LEHMAN**. Last fall an industry official suggested that airports should be permitted to exempt themselves from the Federal Government's airport improvement program and be authorized to raise money on their own for capital improvements.

What is your view of this idea and what would be the impact if airlines at those airports that opted out of the Federal program did not have to continue to charge the 8 percent ticket tax?

Mr. **MCDANIEL**. Defederalization, as that is often called, or some form of voluntary defederalization, has been one of the options examined in looking at the potential grant programs.

That does not seem to be, in our view, one of the more promising ways to finance airport development.

The removal of some of the larger airports from the system—if the taxes were also changed to reflect that—could have a significant adverse financial impact on the resources available throughout the system. The extent of impact depends on the exact nature of the change in taxes.

I would say that at the present time that is not a leading candidate among those options we are examining.

SLOT ALLOCATION

Mr. **LEHMAN**. As I understand it, under your slot allocation rule, as of April 1, 1986, airlines are permitted to buy and sell take-off and landing slots at four major airports: Washington National, Chicago O'Hare, and New York's LaGuardia and Kennedy.

Is this rule now in effect and are slots being bought and sold?

Mr. **ELLETT**. Mr. Chairman, yes, the rule went into effect as of April 1 and there have been some slot transactions. Five have been reported to the FAA involving a transfer of 34 slots.

Mr. **LEHMAN**. These slots obviously are extremely valuable—some estimates are as high as a total of $3 billion—yet under your rule the Federal government will not receive any of the receipts from these sales. Why didn't you attempt to capture some benefits, for instance, through an auction of these slots or a windfall profits tax on the receipts generated by these transactions?

Mr. **ELLETT**. That option was considered by the Department and rejected. One of the concerns was an auction by the government that requires the incumbents who held the slots to pay a price for something they felt all along would have caused significant impact on the current schedule that the airlines follow.

But that was considered actively by the Department and rejected.

Mr. **LEHMAN**. Mr. Carr.

Mr. **CARR**. I just want to editorialize that I think that is outrageous. I think when we start buying and selling slots, I think that is bad enough, but just particularly out of this Administration which wants to sell almost everything, the Bonneville Power dams, I mean this Administration is so into making money by selling off Federal assets and then to give away as much as $3 billion to incumbent airlines as friendly as I am with all of them, is just outrageous.

I cannot understand it. I wish, Mr. Chairman, there was some way we could just undo that whole thing. I think some of us may well try. I know there is a senator or two who have that attitude and maybe airlines out there may not want to engage in the active transfer of these things until this settled out a bit, because they end up paying a lot of money for something that is valueless in the end.

Mr. **Lehman**. Probably the simplest way to do it is to capture the profits on these by a windfall profits tax. That would be something the Ways and Means Committee would have to address, difference between what they carried the slots on their books for or what the assessed value was, and what they were able to sell them for.

Mr. **Carr**. What do you think the impact would be if Congress repealed your rule?

Admiral **Engen**. I think the result would be that there would be an arbitrary means to allocate the scarce landing capability at these four airports. We would have to come up with a method to arbitrarily decide who could use them and when.

Mr. **Carr**. The effect on the airline would be they may have bought a slot that is now worthless.

Admiral **Engen**. Carried to extreme, yes.

Mr. **Carr**. In other words, airlines that engage in active transactions on slots right now are taking a big gamble that Congress won't upset the rule.

Admiral **Engen**. I——

Mr. **Carr**. All right.

The record will show a shrug of the shoulders, decisive shrug of the shoulders.

MARKET VALUE OF SLOTS

Mr. **Lehman**. Would you provide for the record the number of slots at each airport and your estimate of the market value of these slots?

[The information follows:]

The number of slots at each airport is as follows:

	Air carrier	Commuter
Kennedy	361	62
LaGuardia	864	252
O'Hare	1,670	435
National	666	234

The market value of slots will vary considerably according to several factors, such as: which airport is involved; whether a slot is an air carrier or commuter slot; whether the slot is in peak scheduling hours; whether the slot has a high withdrawal priority number and is subject to being recalled; and whether other slots in the same approximate time period are available. While a small number of the most valuable slots may be worth up to $500,000, the vast majority of slots are much less valuable. The Federal Trade Commission conducted a detailed economic analysis of slots and concluded that slot values range between $20,000 and $200,000. The Department has received no information on the price paid for slots in the relatively few transactions conducted since April 1.

Mr. Lehman. The Senate Commerce Committee has approved on a 15 to 1 vote legislation that would as Mr. Carr said, rescind your slot allocation rule. If this legislation is enacted, would you consider alternatives that would permit the Federal government to receive some of the benefits of these slots?

Admiral Engen. I would do anything that is authorized. You make the rules, I will follow them.

PHILADELPHIA AIRPORT

Mr. Coughlin. Before we proceed to National and Dulles, I have not mentioned Philadelphia Airport before this subcommittee for many years to this point in the game. That has been because I have been—they have been carefully planning their projects for which they are making funding requests.

You now have two major projects in for their international terminal and for facilities associated with the UPS. Is all the paperwork—I know the local revenue share is all in place. Is all the paperwork in place for those applications as far as you know?

Mr. Donahue. They are providing with the EIS which FAA hopes to have processed by the First of June. We can do nothing more until after the EIS is completed. We have said to Philadelphia both to the airport and to the City that we fully support what they are doing, and we are going to expedite the EIS and move forward to make sure that the UPS facility can become a reality.

There are some other questions on wetlands and what not on the property that was filled, but that would be also subject to the EIS.

Mr. Coughlin. So you believe that could proceed expeditiously.

Mr. Donahue. Yes, we intend to move very quickly.

Mr. Coughlin. And the UPS project in particular has a time constraint that is very important.

Mr. Donahue. Our Eastern Region and the ADO for Harrisburg have been working firsthand with Philadelphia.

Mr. Coughlin. If you could keep appraised of progress in that area, I would like to do anything I can to expedite that to be sure those projects proceed on schedule.

Mr. Donahue. Certainly will, Congressman.

Mr. Coughlin. Thank you, Mr. Chairman.

TRANSFER OF NATIONAL AND DULLES

Mr. Lehman. Has the House Public Works and Transportation Committee taken any action on your proposal to transfer National and Dulles to a regional authority? Is any action contemplated?

Admiral Engen. Mr. Ellett, if you would. I believe that House Public Works and Transportation Committee has not taken any action at this time.

Mr. Ellett. I am not aware of any. Mr. Wilding might.

Mr. Wilding. The Public Works and Transportation Committee has indicated all year long, since the transfer legislation was introduced last spring, that they preferred to have the Senate act first. Of course the Senate acted last Friday. The House Committee indicated it would schedule hearings as soon as the Senate acted, so we expect them soon.

Mr. Lehman. Last year you indicated the Federal government would receive about $70 million for these two airports. A figure of $47 million has been quoted in recent articles.

Given the fact that the number of passengers at these airports is projected to increase by more than 30 percent from fiscal year 1983 to 1987 and the fact that the net profit for this same time period is estimated to be in excess of $60 million, have you reconsidered your proposed price?

Admiral Engen. Mr. Wilding.

Mr. Wilding. Sir, we have not. As a matter of fact, the transfer legislation as passed by the Senate would require the new authority to pay $117 million in the lease arrangement and then would encourage the authority to assume $500 to $600 million of new debt.

It is of course a single purpose authority that would be in business only to run these airports so the airports' economic strength would be directed at new improvements, getting those new terminals and such on line.

Mr. Lehman. A few weeks ago it was reported that a group of private investors is offering up to $1 billion to buy the airports. Has such an offer been made and, if so, aren't you embarrassed by your proposed selling price?

Admiral Engen. I could answer that, sir. No such offer has been made to my knowledge. I read the same article in the newspaper.

CAPITAL IMPROVEMENTS

Mr. Lehman. In your March 19, 1986 letter, it was indicated that $530 to $700 million in funding is required for capital improvements at the two airports to meet projected growth, and you indicate that you do not believe this level of capital improvement can compete effectively with other Federal budget priorities.

Since you indicate that these funds will be required over a five-year period, does your legislation require a minimum annual capital investment by the regional authority of $100 to $140 million to meet these needs?

Admiral Engen. Mr. Wilding.

Mr. Wilding. Sir, the legislation as we submitted it did not require it. It certainly contemplated it. I might also say that the version of the legislation passed by the Senate actually has a "Sense of Congress" section which would urge the authority to get on with those improvements, to do so within the initial five years and to do so at both airports concurrently.

FAA POLICE FORCE PAY INCREASE

Mr. Lehman. On April 4 the White House announced a 22 percent pay increase for the FAA police force at National and Dulles airports. This came three days after several FAA policemen called a news conference regarding "critical staffing and pay problems" at the airport. This has been an ongoing issue for many years.

Why did it apparently take a news conference and heightened concern over terrorism to get the Administration to move on this issue?

[The information follows:]

The heightened concern over terrorism quite properly elevated the issue of airport police pay to a higher priority and quite likely influenced the quick response by the Office of Personnel Management to the Department's request for special pay rates. The groundwork for a significant pay increase had been developed over a period of many months, and the Secretary's April 1 letter was simply the concluding element of a long process.

Mr. LEHMAN. Will this pay increase put an end to the high turnover rate for FAA police, which was reportedly up to 66 percent?

[The information follows:]

Response to our recruitment efforts since the announcement of the police pay raise has been excellent. We anticipate the turnover rate will drop sharply because of the pay increase.

SECURITY MEASURES

Mr. LEHMAN. Are you satisfied with the security measures currently in force at National and Dulles?

[The information follows:]

We have recently conducted a complete review of the security posture of National and Dulles airports and have identified ways to further strengthen the security at both airports. It is extremely challenging to provide tight security at a public facility which annually serves millions of people. Constant vigilance is required. We do not expect ever to be completely "satisfied" with any set of airport security measures while terrorist attacks and bombings remain a threat. We will continue to improve security at the airports by keeping abreast of new security technology and improved security techniques.

AGE 60 RULE

Mr. LEHMAN. We have touched on the police salaries already.

We have been advised that about a year ago you stated that the FAA's age 60 rule for commercial airline pilots is a rule of administrative convenience. Did you make such a statement and, if so, what did you mean?

Admiral ENGEN. I don't recall that. I would have to look very carefully whether I personally made that statement or not.

The age 60 rule is one of—it is really of that nature in the sense that it provides a fixed date for an airline pilot's retirement. A firm planning date when somebody enters into a profession that he or she knows it will end at some finite point in the future.

We found no medical basis for predicting an individual's, aging pilot's ability or risks for incapacitation or functional impairment. Chronological retirement age is necessary. I believe it is necessary for maintaining a discipline in the pilot community. It is my firm opinion that age 60 rule provides a measure of control on the pilot population.

Mr. LEHMAN. Recently, the American Medical Association submitted an extensive report on the FAA's medical standards and Dr. T. Franklin Williams, Director of the National Institute of Aging, headed a panel of experts which developed tests to measure a person's ability to perform piloting duties after age 60.

In view of this and the fact that the FAA now grants exemptions from its medical rules to pilots who have suffered such disqualifying conditions as heart attacks, by-pass surgery, alcoholism and others, can you utilize these tests to grant exemptions from the age 60 rule to pilots who can prove their health status and competence?

Admiral ENGEN. Mr. Broderick, please.

Mr. BRODERICK. The kinds of tests you refer to only address a narrow number, sir, of the reasons for the existence of the age 60 rule. They do not measure the ability of a pilot to do things that are basically psychological in nature, things like short-term memory recall and ability to function under pressure with short-term recall, et cetera.

Sudden incapacity, the type of thing you are talking about here, is not the only thing that we deal with with the age 60 rule.

CONTROLLER DRUG PROBLEM

Mr. LEHMAN. Last August it was reported that three air traffic controllers were fired and six others put in a drug rehabilitation program following an investigation at your Miami center. In January, two controllers from your Leesburg center were arrested on drug charges in Washington.

To what extent do you have a drug problem with your controllers?

Admiral ENGEN. I have a few comments to wrap up.

I would like Mr. Broderick to respond initially, sir.

Mr. BRODERICK. The short answer to that is there are very, very low numbers of controllers with whom we have a drug or alcohol problem, far below 1 percent last year compared to national averages which approach 5 or 10 percent.

Aviation is a different and unique occupation and these kinds of problems are far less prevalent in the environment that we deal in than the environment that the average public deals in.

Admiral ENGEN. I would add that I certainly agree with that, and add one parenthetical thought which is that the FAA is a diagonal slice of the American public and although we have this drive to——

Mr. LEHMAN. Would "cross-section" be better than "diagonal"?

Admiral ENGEN. Cross-section, yes, sir.

Mr. LEHMAN. Okay.

Admiral ENGEN. But it is a cross-section of the American public, and we do find on occasion we have people who transgress. Where we find that to be the case, we have an employee assistance program, provided they come to us for assistance. If we find they have transgressed while in duty status, they are out.

The employee assistance program is a very good program. It is working.

Mr. LEHMAN. Do you require controllers to undergo testing for drug use as part of their annual physical examinations?

Admiral ENGEN. At the present time—go ahead.

Mr. BRODERICK. At the present time we do not. We have announced a policy to do so. We expect to begin testing later this calendar year. We have a contract that has been bid and the bids are being evaluated and that is really the hold up right now, just getting the bids evaluated, the contract is validated and awarding the contract to do these tests.

TWA VIOLATIONS

Mr. **Lehman**. We have received some mail in recent months alleging that the newly trained flight attendants who have replaced those on strike at TWA are not sufficiently trained in their safety responsibilities. It is alleged that there has been a much higher incidence of violations of FAA air safety regulations by these inexperienced flight attendants.

Has your staff observed a higher number of TWA safety violations since the strike? If so, what are you doing about it?

Mr. **Broderick**. We have as we discussed earlier, sir, got TWA under a microscope right now. We are doing literally, have done nearly a thousand special inspections of TWA and have had hundreds of alleged violations reported to us. As a result I would expect in the very short-term that we probably will have over the last month initiated more investigations and may have more violations reported than was the case in the past.

If you look at the special situation I think that is understandable. In general, I would say that the compliance posture of TWA is at least as good if not better than it has been in the past in this area.

REPORTING SYSTEM FOR NEAR MIDAIR COLLISIONS

Mr. **Lehman**. Are you satisfied that your revised reporting system for near midair collisions has corrected all of the problems that led to significant under-reporting of such incidents and is now providing you with accurate data?

Admiral **Engen**. Yes, sir. I personally established this system making sure that these reports come through unedited. They then go back to the field to be investigated.

We had our procedures examined by Dr. Ronald Smith of Georgetown University. He conducted a comprehensive analysis of our reporting system and found that the reports were indeed going through. He concurred with the FAA audit, that we were not in fact losing any reports at this time. We have changed the conditions because some of the near midair collision reports dropped out for unexplained reasons.

I just wasn't going to have that.

So based on the first quarter of calendar 1986, there is an increase in the number of near midair collision reports of 14. This represents an increase over 1985 of 8.75 percent.

I want to say here and now that a near midair collision is a nonevent. It is something that is an accident that does not occur. Aviation is the only mode of transportation I know of that logs near accidents. We do this openly and above-board because we hope to learn from the reports on how to prevent them from happening.

It is for safety of the system. It is going well, sir.

FSS PRIVATIZATION

Mr. **Lehman**. What are the results of your study on privatization of your flight service stations?

Admiral **Engen**. The work was performed by a contractor and he analyzed the safety, economic and personnel impact of privatization. It has been completed; however, the results are still undergoing internal review and are not available for release at this time.

Mr. CARR. When will they be available?

Admiral ENGEN. I would like to say, Congressman Carr, as soon as we can.

It is a matter of internal coordination. I can take a scientific wild guess and say probably and hopefully in 90 days.

ENGINE HEALTH MONITORING

Mr. LEHMAN. We have been advised that an electrostatic method has been developed to detect abnormal turbin engine deterioration. As we understand it, the basic method involves placing electrostatic sensors in the jet exhaust, electrically quantifying the signals observed and then normalizing and trending the number, size, and polarity of these signals, which, when they exceed a warning level, indicate an impending failure.

We also understand that both the Air Force and Navy are involved in applying the method as a new tool in engine health monitoring. Are you familiar with this method and, if so, to what extent do you believe it is applicable to civil aviation?

[The information follows:]

We are aware of an Air Force research program entitled "Ion Diagnostic Technology" which was dropped several years ago because the results were not reliable. The level of technology has not developed such that it would have any application in civil aviation today. We have found engine condition monitoring programs, such as those currently used by air carrier operators which utilize trend analysis of engine performance parameters, to be helpful in predicting engine problems.

FLIGHT DATA RECORDERS

Mr. LEHMAN. According to the NTSB, you have recently indicated that you have no plans to comply with the new ICAO standards for flight data recorders. The Safety Board has recommended improved cockpit voice recorders and flight data recorders after several accidents.

Would you comment on your present position and the status of any pending rulemaking?

Admiral ENGEN. Because of my previous position I would like Mr. Broderick to comment.

Mr. BRODERICK. Mr. Chairman, about a year, a little more than a year ago we issued a Notice of Proposed Rulemaking that proposed significant changes to flight data recorders across the spectrum of airplanes from virtually the smallest to the very largest, including updates and retrofits as appropriate for the fleet.

As a matter of fact, today coordination internally in the FAA was completed on the initial draft of that rule, and it was forwarded to the Secretary for her staff's review and forwarding to OMB.

We would expect within something like two months to have that regulation published in the Federal Register and effective.

Mr. LEHMAN. I would yield to Mr. Coughlin and Mr. Carr, and then I thought maybe we would take a five or ten minute stretch and try to do an hour of justification questions if it is all right with you folks.

Mr. COUGHLIN. No questions, Mr. Chairman.

Mr. LEHMAN. Mr. Carr.

BUDGET CONSTRAINTS

Mr. CARR. Thank you, Mr. Chairman.

Again operating on the budget cutting side, I am still trying to poke around and find out where the real downside is on this thing.

I understand you have an obligation to come here and be optimistic about what you are able to do with less money, but I just—something is going to fall between the cracks here.

I want to find out just where it is so we are all on notice.

One of my areas of suspicion is in the flight inspection field offices. At present apparently there are large percentage of specialists designed to develop, and maintain flight procedures and a lot of these people I am told are trainees. I further understand that formal FAA academy training and procedures development has already been deleted because of budget constraints and this may mean that the experienced procedure specialists must devote a lot of their operational time to the training that the Academy isn't able to provide.

Pilots have been telling me that there is a—they seem to feel, and I get the NOTAMs in my office, I cannot claim that is the first thing I go read every morning but there does seem to be a thickening of the NOTAMs, a reliance on NOTAMs as opposed to the actual altering of the procedures.

I am told although I have not been there in a long, long time that particularly at a place like Chicago O'Hare that it is not unusual to have long wordy changes to procedures for several runways.

Are we getting away from the idea that NOTAMs are of a temporary nature and the belief is out there—I must say that I share some of this—that some of these NOTAMs are on the books for an inordinately long period of time, and remain there, and really are a signal that there is a more permanent procedure change which ought to be made but probably is not getting made because you got an understaffing problem.

Admiral ENGEN. Let me respond to that, Mr. Carr, and say we did address a similar question on the flight inspection field office and Mr. Broderick could expand on that part of it.

Let me address the NOTAMs if I can. You are right, NOTAMs are of temporary nature and not permanent nature. I think NOTAMs are very much like voice transmission. I think we have to police ourselves from time to time. If you are perceiving that the NOTAMs are becoming voluminous or lengthy and if the people are seeing that they are more permanent than temporary, then I would like to take a hold of that and look very critically at our procedures. By the very nature of it, a NOTAM advises of a temporary outage.

Mr. CARR. Particularly in an operational thing where you got airports like Chicago O'Hare where you got a "gizzilion" approaches, no pilot is going to bother in preflight planning to go read all the junk because a lot of—you know, how many approaches are there to O'Hare, do you know?

Admiral ENGEN. How many?

Mr. LUFFSEY. Fourteen or fifteen, something like that.

Mr. CARR. But you are only going to make one.

Admiral **Engen**. I would hope everybody would go read them. I would.

Mr. **Carr**. Yes, but if you have NOTAMs on fifteen approaches and I know it wouldn't be, not all approaches having a NOTAM on it, but if you had them on half that, that is 7 maybe. As a practical operational matter, I doubt that you are going to have pilots filling up their brain cells with NOTAMs in advance of knowing which runway or which—they are going to find out the wind direction and try to narrow that down, but I cannot expect for everybody else but you really don't want to fill your brain up with too much confusion, either.

You want to have relevant information.

Admiral **Engen**. We want a purity of the NOTAM system, you are correct. They should be brief enough so they can be assimilated and retained, and people should want to go look at them.

Mr. **Carr**. Some of them effect the shutdown of facilities. I am concerned that perhaps the same budget cutting problem we are having if the NOTAMs begin to increase in number, to me it is a signal that given in any one period of time that in fact we are getting improved technology so reliability ought to be up.

If a facility shut down as a portion of the NOTAMs are increasing, to me it is an indication of budget cutting.

Admiral **Engen**. I would like to address that and ask Mr. Frisbie to go further, but much of shutting down the facility is by design on purpose. I will let Frank talk about our philosophy there.

Mr. **Frisbie**. There are, Congressman, a number of ways that a facility will be off the air. One is as the Administrator indicated, by design. If we see that there is a reason to take off a facility for preventive maintenance reasons, we coordinate with air traffic and take that facility off the air at that point in time when it will have the least impact.

With regard to the general availability of facilities, it continues to be extremely high. That is one of the things that Mr. Luffsey and his team monitors every morning, when they do the strategic planning for the United States, they monitor facilities that are off the air.

I see no trend to indicate that we have a problem. Facilities availability continues to be extremely high.

AIRCRAFT FLEET CONVERSION

Mr. **Carr**. Where are you with your fleet of facilities checking aircraft?

Admiral **Engen**. Flight inspection.

Mr. **Broderick**. We have gone out for bid on the light twin engine aircraft replacement, the mainstay of the fleet, nineteen aircraft. We have received bids, we are in a formal procurement evaluation. We fully expect to award a contract in June this year.

Mr. **Carr**. What is your total fleet now?

Mr. **Broderick**. Fifty-one aircraft, sir.

Mr. **Carr**. Is that the same number over the past five years?

Mr. **Broderick**. Oh, no, it has significantly decreased, sir. I would be happy to provide the details for the record. It has gone down and it will shrink a little more when we get the full fleet conversion program in.

[The information follows:]

The Aircraft Fleet Conversion Program was approved by the Administrator in April 1981. The program was implemented immediately. The aircraft fleet size in 1981 was 63 aircraft. Upon completion of the conversion program, the fleet will be composed of 48 aircraft.

Mr. Carr. Isn't it a fact that you shut down some navigation facilities just because you don't have—you are undercapacity on flight check aircraft?

Mr. Broderick. The problem to which you refer was primarily a short-term problem—short-term, it will probably take us a couple years to resolve the staffing shortages that we have in the consolidations of the Minneapolis FIFO at the Battle Creek, Michigan FIFO and the Seattle and Los Angeles FIFOs at Sacramento, Minnesota area. It is not a budget problem, but recruiting and training people.

As we indicated in the discussion earlier, and in our discussion with Mr. Durbin, we will be happy to provide a detailed explanation of what the training and recruiting problem is, but we are not budget-limited in terms of being able to perform the required flight checks for safety of the navigation facilities. What we are doing in fact is being very careful in terms of prioritizing the essential and less-than-essential facilities in terms of bringing them back on the air so as to avoid spending money that is really not necessary.

[The information follows:]

The FAA has not resorted to shutdown of navigational facilities due to undercapacity of flight check aircraft or budget-related reasons. The problem is short-term due to skills imbalance and staffing shortages created in the field office consolidation in the Michigan and Minnesota area. Additionally, we have not been budget limited in our hiring program for flight inspection and flight procedures pilots. A high attrition rate due to retirements and the extensive 2-year training requirements necessary to achieve a journeyman-level workforce have created a situation where we have limited hiring to fit our training and supervision capacity. We hired 39 pilots in 1985, have added 14 to date in 1986, and have 16 additional pilots in the process of being hired.

Mr. Carr. Well, I will be glad to review the information you give us with an open mind, but I just have this nagging feeling that like I say, something—we are cutting an awful lot out of you guys and the budget requests are being cut, something is falling between the cracks.

Admiral Engen. I expressed my concern yesterday about the Operations appropriation and the ability to run the agency. That was the basis of my coming to you for the supplemental.

AIRCRAFT CERTIFICATION STANDARDS

Mr. Carr. Also, with regard to aircraft certification standards, I think there is a nagging feeling in some sectors of the aviation community that the pace of new technology really is coming along faster than the FAA is able to stay on top of it, and that you are put in a position again by understaffing of having to do more and more reliance on the industry as opposed to really having your own technology base from which you can check and overcheck and oversight this stuff.

All of these things, you know, at OMB or in the confines of a State of the Union message or something, are technical and detailed that nobody is ever going to catch that stuff.

But I have an anxiety that the FAA is understaffed in this regard, too. There is—after all you are only a few people and you got this whole industry out there that is pushing new technological frontiers and there is a limit to what you can know given the finite number of people you have to work with, and your staffing is less in this regard than it has been in the past.

So something has to give, doesn't it?

Admiral **Engen**. I will not sit here, Mr. Carr, and tell you that all is sweetness and light.

It is not.

The Administration believes in the goals of Gramm-Rudman, and in that vein we all rallied around to help reduce the deficit. It has been a very difficult drill. We have had some very difficult decisions to be made but we have preserved safety. We are preserving our ability to operate. We will ensure that we continue to increase the capability of the air traffic system. We will continue to perform our inspections and surveillance and security. Then we begin to set priorities.

I have some very real management problems ahead of me in the future.

Mr. **Carr**. I want to help you with them, and I think the committee does. I just think that to some extent what is operating here is a bit of a deferral of safety. I know that is a harsh term but thinking about safety and time there is near-term safety and long-term safety. Obviously if you are faced with a budget cut and there is a 737 on final approach that is going to be the highest priority, and some of these other softer, squishier, less sexy things are going to get cheated and it isn't the FAA under your watch that is going to pay the price, it is going to be the FAA under someone else's watch.

They are going to have to—somewhere along the line that deficit may have to be made up. I would also just say that as I move around my district and I try to account for the fact that I care a lot about aviation, you have got a political constituency out there that is on your side and I know that you got marching orders from OMB and the whole rest of it, but there isn't a person across America who isn't touched in some highly personal way, even if it is just going to get on a plane to see Aunti Minnie, and I think that there is political support out there for keeping the FAA whole, and I don't think you have to take the kind of budget cuts that they are handing to you.

Thank you, Mr. Chairman.

Mr. **Lehman**. Thank you, Mr. Carr.

We will stop for about five minutes and we will be back for about another hour.

[Recess.]

JUSTIFICATIONS

OFFICE OF PROGRAM AND REGULATIONS MANAGEMENT

Mr. **LEHMAN**. On page 1 you indicate that you have established an Office of Program and Regulations Management. What is the reason for establishing this office and what are the responsibilities of the office?

[The information follows:]

The Office of Program and Regulations Management was established in March 1985 to promote greater efficiency in aviation safety regulatory programs by providing policy guidance, leadership, and direction to:

National aviation safety data systems development (ASAS)
Rulemaking Activities
Evaluation
Resource Management
Administrative and Fiscal Management for all offices reporting to the Associate Administrator for Aviation Standards (AVS-1)

OFFICE OF AIRPORT CAPACITY

Mr. **LEHMAN**. You also appear to have established an Office of Airport Capacity. Would you explain the responsibilities of this office and indicate why it was established?

[The information follows:]

Acting upon the recommendation of the Industry Task Force on Capacity Improvement and Delay Reduction, which recognized the critical importance of airport capacity to the aviation industry, FAA established the Airport Capacity Program Office (ACPO).

The Airport Capacity Program Office was established to coordinate solutions to the multifaceted capacity problem. This requires coordination between all elements of the aviation community including state governments, airport management, airlines, general aviaiton, and others.

ACPO coordinates the development, testing, demonstration, and implementation of programs and procedures aimed at improving airport capacity. The ACPO also acts as the agency's liaison office with the aviation community in dealing with airport capacity issues.

ACPO produced and will provide annual updates of the Airport Capacity Enhancement Plan. This plan documents all FAA programs significantly affecting airport capacity including new airspace procedures, equipment and airport development.

ACPO also sponsors airport capacity task forces which recommend specific capacity improvements at the Nation's busiest airports.

ACPO sponsors development of capacity computer models for both airspace and airport planning.

ACPO serves as the major FAA advocate on airport capacity issues.

POSITIONS BY OFFICE

Mr. **LEHMAN**. Would you indicate for the record the number of positions assigned to each of the offices and regions shown on page 1 for fiscal years 1985, 1986 and 1987?

[The information follows:]

FISCAL YEAR 1985-1987 FTP POSITIONS BY OFFICE/SERVICE

	Fiscal year—		
	1985	1986	1987
Administrator	50	50	50
Office of Chief Counsel	81	81	81

FISCAL YEAR 1985–1987 FTP POSITIONS BY OFFICE/SERVICE—Continued

	Fiscal year—		
	1985	1986	1987
Office of Civil Rights	13	13	13
Office of Public Affairs	29	29	29
Office of Aviation Safety	38	41	41
Associate Administrator of Airports	15	14	14
Office of Airport Planning and Programming	31	31	31
Office of Airport Standards	35	35	35
Airport Capacity Program Office	7	7	7
Metropolitan Washington Airports	733	707	707
Associate Administrator for Administration	5	5	5
Office of Accounting	66	66	66
Acquisition and Materiel Service	212	209	209
Office of Budget	45	45	45
Office of Management Systems	107	103	103
Associate Administrator for Air Traffic	323	346	368
Associate Administrator for Aviation Standards	790	787	787
Office of Airworthiness	71	48	48
Office of Aviation Medicine	34	35	35
Office of Civil Aviation Security	30	73	73
Office of Flight Standards	72	88	148
Office of Rotorcraft Program	6	6	6
Office of Program and Regulations Management	44	57	59
Aviation Standards National Field Office	130	130	130
Associate Administrator for Development and Logistics	79	79	78
Program Engineering and Maintenance Service	311	311	311
Systems Engineering Service	131	131	131
Advanced Automation Program Office	54	54	54
FAA Technical Center	1,199	1,163	1,113
Associate Administrator for Human Resource Management	5	5	5
Human Resource Division and Executive Staff	43	43	43
Office of Human Resource Planning and Evaluation	19	19	19
Office of Labor and Employee Relations	18	18	18
Office of Organizational Effectivenes	28	28	28
Office of Personnel and Technical Training	45	44	44
Associate Administrator for Policy and International Aviation	18	18	18
Office of Aviation Policy and Plans	56	56	56
Office of Environment and Energy	32	32	32
Office of International Aviation	21	21	21
Europe, Africa and Middle East Office	38	52	51
Alaskan Region	1,305	1,278	1,284
Central Region	2,677	2,646	2,542
Eastern Region	5,038	5,098	4,921
Great Lakes Region	6,548	6,608	6,382
New England Region	1,767	1,748	1,701
Northwest Mountain Region	4,324	4,366	4,247
Southern Region	7,773	7,868	7,603
Southwest Region	5,625	5,531	5,312
Western Pacific Region	5,448	5,351	5,184
Mike Monroney Aeronautical Center	2,349	2,257	2,257
Unallocated			[1] 500
Total	47,918	47,831	47,045

[1] Air Traffic Control positions.

ORGANIZATIONAL CHANGES

Mr. LEHMAN. Have you made any other significant organizational changes during the past year and are you planning any changes at the present time?

[The information follows:]

Two significant organizational changes were made last year. The air traffic control organization was restructured under an Associate Administrator for Air Traffic and the operational control for the day-to-day air traffic control system was placed under the line authority of this Associate Administrator. The other organizational change involved the establishment of a new Office of Program and Regulations Management under the executive direction of the Associate Administrator for Aviations Standards.

For the future, we are in the process of reorganizing the Office of Civil Aviation Security so that it can better accommodate increased responsibilities for airports and airline passengers, and to thwart the threat of terrorists activities. This change will be accomplished in fiscal year 1986.

EMPLOYMENT AND POSITIONS

Mr. LEHMAN. Would you provide for the record a table similar to the one on page 360 of last year's hearing, indicating, by appropriation, your September 30, 1985 employment, present employment, authorized positions for 1986 and 1987, and your estimated end-of-year employment for fiscal years 1986 and 1987?

[The information follows:]

FEDERAL AVIATION ADMINISTRATION
FULL-TIME PERMANENT POSITIONS - YEAR-END EMPLOYMENT-FISCAL YEARS 1985-1987

	Actual Employment		Fiscal Year 1986 Estimate		Fiscal Year 1987 Estimate	
	Sept. 30, 1985	Mar. 31, 1986	FTP Pos.	Year-End Emploment	FTP Pos.	Year-End Employment
Operations 1/	43,010	42,792	45,315	42,977	44,529	42,500
Operation and Maintenance, Metropolitan Washington Airports	602	590	707	672	707	672
Aviation Insurance Revolving Fund	2	2	2	2	2	2
Facilities and Equipment (Airport and Airway Trust Fund)	935	928	962	914	1,162	1,104
Research, Engineering and Development (Airport and Airway Trust Fund)	801	784	845	803	645	613
Subtotal, Direct	45,350	45,096	47,831	45,368	47,045	44,891
(General Fund)	(43,614)	(43,384)	(46,024)	(43,651)	(45,238)	(43,174)
(Trust Fund)	(1,736)	(1,712)	(1,807)	(1,717)	(1,807)	(1,717)
Reimbursements	388	388	521	521	488	488
Total, FAA	45,738	45,484	48,352	45,889	47,533	45,379

1/ Includes Headquarters Administration.

POSITION COMPARISON

Mr. **Lehman**. Would you also indicate for each activity, as on page 361 of last year's hearing, the fiscal year 1985 and 1986 position levels shown in your 1986 budget, the fiscal year 1986 level approved by Congress and the fiscal year 1986 level shown in your 1987 budget?

[The information follows:]

OPERATIONS APPROPRIATION

[Full-time permanent positions]

Activity	1985 column of fiscal year 1986 congressional	1986 column of fiscal year 1986 congressional	1986 column as approved by Congress	1986 column of fiscal year 1987 congressional
Air traffic	25,020	25,172	25,130	25,130
Systems maintenance	10,670	10,403	10,397	10,397
Installation and materiel	1,561	1,428	1,488	1,491
Aviation standards	4,557	4,569	4,886	4,886
Airports	470	465	472	472
Development direction	138	138	138	138
Centralized training	788	785	785	([1])
Direction, staff and supporting services	1,538	1,410	1,390	1,005
Human resource management				[2] 1,295
Headquarters administration				[3] 501
Total	44,742	44,370	44,686	45,315

[1] Centralized training now included in the human resource management activity.

[2] Human resource management activity established. Includes the centralized training activity and designated positions from direction, staff and supporting services.

[3] Headquarters administration was a separate appropriation in prior year columns.

WORKLOAD INDICATORS

Mr. **Lehman**. Would you update for the record the table on workload indicators which was included on page 362 of last year's hearing?

[The information follows:]

WORKLOAD INDICATORS AND INDUSTRY TRENDS

	Fiscal year—			
	1984	1985	1986	1987
Forecast made in February 1982:				
Aviation fuel consumption (millions of gallons)	10.7	11.2	11.6	12.0
Revenue passenger-miles (billions) [1]	281.3	300.2	320.3	339.5
General aviation hours flown (millions)	46.5	49.0	51.4	53.7
IFR aircraft handled (millions)	30.8	32.4	33.6	34.7
Total operations at airports with FAA towers (millions)	66.8	73.6	79.0	83.5
Instrument operations handled by FAA towers (millions)	41.4	43.1	44.8	46.2
Forecast made in February 1983:				
Aviation fuel consumption (millions of gallons)	10.6	10.9	11.1	11.3
Revenue passenger-miles (billions) [1]	289.1	307.3	321.0	338.0
General aviation hours flown (millions)	44.4	45.8	47.8	49.6
IFR aircraft handled (millions)	30.5	31.6	32.8	34.0
Total operations at airports with FAA towers (millions)	62.4	68.1	73.8	78.4
Instrument operations handled by FAA towers (millions)	37.8	40.9	42.6	44.3
Forecast made in February 1984:				
Aviation fuel consumption (millions of gallons)	10.3	10.5	10.7	11.0
Revenue passenger-miles (billions) [1]	298.2	315.5	329.9	347.7
General aviation hours flown (millions)	37.6	39.1	41.1	43.3

WORKLOAD INDICATORS AND INDUSTRY TRENDS—Continued

	Fiscal year—			
	1984	1985	1986	1987
IFR aircraft handled (millions)	31.2	32.1	33.1	34.0
Total operations at airports with FAA towers (millions)	57.2	61.1	65.8	70.3
Instrument operations handled by FAA towers (millions)	36.6	39.4	40.8	42.4
Forecast made in February 1985:	Actual			
Aviation fuel consumption (millions of gallons)	10.7	10.9	11.2	11.4
Revenue passenger-miles (billions) [1]	298.0	318.3	332.0	350.9
General aviation hours flown (millions)	35.9	36.7	38.0	39.2
IFR aircraft handled (millions)	31.6	32.8	33.9	35.0
Total operations at airports with FAA towers (millions)	56.8	59.5	62.9	66.5
Instrument operations handled by FAA towers (millions)	37.3	39.1	40.9	42.3
Preliminary forecast for February 1986:	Actual	Actual [p]		
Aviation fuel consumption (millions of gallons)	10.7	11.2	11.8	12.2
Revenue passenger-miles (billions) [1]	298.0	330.4	346.5	369.2
General aviation hours flown (millions)	35.9	36.6	37.3	38.1
IFR aircraft handled (millions)	31.6	32.7	34.0	35.1
Total operations at airports with FAA towers (millions)	56.8	57.9	59.8	61.8
Instrument operations handled by FAA towers (millions)	37.3	38.7	40.6	42.3

[1] Total system, domestic plus international scheduled revenue passenger-miles.

[p] Preliminary.

NATIONAL DEFENSE

Mr. LEHMAN. In the past it has been indicated that approximately 15 to 18 percent of your budget is allocated to national defense. Do you expect this percentage to remain relatively constant through fiscal year 1987?

Mr. MCDANIEL. Yes, Mr. Chairman. We are in the midst of updating our cost allocation study but the preliminary results are that it will be within this range.

ADVISORY COMMITTEES

Mr. LEHMAN. Would you update for the record the information on advisory committees which was included on page 365 of last year's hearing?

[The information follows:]

FAA has two operating advisory committees and a third advisory committee, Natinal Airspace Review Enhancement, which is being reestablished in the third quarter of fiscal year 1986. These three advisory committees are described below:

Name	Purpose	Fiscal year 1987 estimate
Radio Technical Commission for Aeronautics.	Develops consensus technical standards for airborne electronic equipment. Advances the art and science of aeronautics, seeking solutions to problems involving electronics and telecommunications.	$136,000
Air Traffic Procedures Advisory Committee.	Reviews present air traffic control procedures and practices and analyzes new or significantly revised procedural concepts.	12,800
National Airspace Review Enhancement Advisory Committee.	Serves the public interest by providing a forum for interaction between FAA, the military, the airlines, pilots (airline, general aviation and business) and air traffic central people. Reviews and analyzes the National Airspace System and modernization. Focuses on airspace, procedural, and regulatory aspects of the air traffic control system.	300,000
Total		448,800

FAA participation on advisory committee is approximately seven employee years.

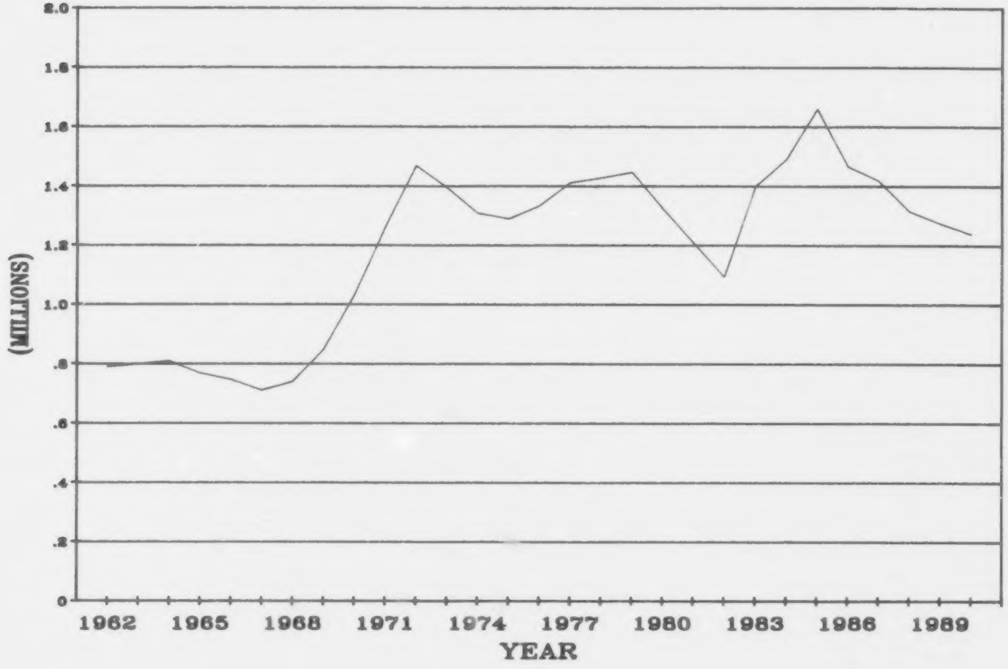
FUNDING IN CONSTANT DOLLARS

Mr. **Lehman**. Would you insert a chart similar to that on page 6 of your justifications showing FAA funding in constant dollars?

[The information follows:]

FAA FUNDING IN CONSTANT DOLLARS

FY 1962 - 1990



Mr. **Lehman**. Would you update the tables contained on pages 368 and 369 of last year's hearing showing accident and fatality rates for the past ten years?

[The information follows:]

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ACCIDENTS, FATALITIES, RATES
U.S. AIR CARRIERS OPERATING UNDER 14 CFR 121
(ALL OPERATIONS)
1975-1985

					RATE PER 100,000 HOURS		
Year	Total	Fatal	Fatalities	Aircraft Hours Flown*	Accident Rate	Fatal Accident Rate	Fatality Rate
1975	37	3	124	5,607,358	0.66	0.05	2.21
1976	23	2	38	5,806,729	0.40	0.03	0.65
1977	24	5	655	6,039,707	0.40	0.08	10.84
1978	22	5	160	6,234,626	0.35	0.08	2.57
1979	29	5	354	6,878,911	0.42	0.07	5.15
1980	19	1	1	7,067,468	0.27	0.01	0.01
1981	26	4	4	6,810,255	0.38	0.06	0.06
1982	19	4	234	6,702,251	0.28	0.06	3.49
1983	25	4	15	6,930,564	0.36	0.06	0.22
1984	18	1	4	7,685,686	0.23	0.01	0.05
1985P	23	7	526	8,164,000	0.28	0.09	6.44

*Hours flown estimates from Research and Special Programs Administration (RSPA).

P - Preliminary Data

SOURCE: NTSB News Release on Accident Data, dated January 12, 1986.

4/18/86

ACCIDENTS, FATALITIES, AND RATES
U.S. GENERAL AVIATION +
1975 - 1985

ACCIDENTS				** AIRCRAFT	ACCIDENT RATES* PER 100,000 AIRCRAFT HOURS		* FATALITY
YEAR	TOTAL	FATAL	#FATALITIES	HOURS FLOWN	TOTAL	FATAL	RATE
1975	3995	633	1252	28,799,000	13.87	2.20	4.35
1976	4018	658	1216	30,476,000	13.18	2.16	3.99
1977	4079	661	1276	31,577,508	12.92	2.09	4.04
1978	4216	719	1556	34,887,178	12.08	2.06	4.46
1979	3818	631	1221	38,641,268	9.88	1.63	3.16
1980	3590	618	1239	36,401,663	9.86	1.70	3.40
1981	3500	654	1282	36,803,200	9.51	1.78	3.48
1982	3231	589	1182	32,094,623	10.07	1.84	3.68
1983	3060	554	1081	31,047,548	9.86	1.78	3.48
1984	3011	545	1114	31,510,053	9.56	1.73	3.54
1985P	2742	490	937	32,023,000	8.56	1.53	2.93

P - Preliminary data

+ - All Operations other than those operated under 14 CFR 121 and 14 CFR 135.

# - Includes air carrier fatalities when in collision with General Aviation aircraft.

** - Source of estimate: FAA

SOURCE: NTSB News Release on Accident Data, dated January 13, 1986.

4/18/86

Mr. Lehman. Would you also update the table on hours flown that was included on page 371 of last year's hearing record?

[The information follows:]

TOTAL HOURS FLOWN

[In millions]

Fiscal year	Air carrier	General aviation
1981	6.1	41.1
1982	6.1	37.8
1983	6.5	36.4
1984	7.2	35.9
1985 (estimate)	7.4	36.6
1986 (estimate)	7.7	37.3
1987 (estimate)	8.1	38.1

POSITIONS AND ACTUAL EMPLOYMENT

Mr. Lehman. On page 9 what is your current employment related to your 47,831 authorized full-time permanent positions?

[The information follows:]

FEDERAL AVIATION ADMINISTRATION FULL-TIME PERMANENT POSITIONS VERSUS ACTUAL EMPLOYMENT

Appropriation/activity	Actual employment as of March 31, 1986	Fiscal year 1986 FTP positions direct
Operations:		
Air traffic total	24,315	25,130
(Centers)	(9,131)	(9,628)
(Towers)	(9,811)	(9,904)
(Flight service stations)	(4,453)	(4,595)
(Other air traffic)	(920)	(1,003)
Systems maintenance	9,479	10,397
Installation and materiel	1,405	1,491
Aviation standards—regulatory	2,335	2,588
Aviation standards—certification	685	775
Aviation standards—aircraft	713	821
Aviation standards—security	326	436
Aviation standards—medical	192	225
Aviation safety	40	41
Airports	440	472
Development direction	124	138
Human resource management	1,241	1,295
Direction, staff, and supporting services	1,020	1,005
Headquarters administration	477	501
Subtotal, operations	42,792	45,315
Operation and maintenance, MWA	590	707
Facilities and equipment	928	962
Research, engineering, and development	784	845
Aviation insurance	2	2
Grand total, direct, FAA	45,096	47,831

Mr. Lehman. You are requesting $2,799,780,000 for operations with $2,099,835,000, or 75 percent of this amount, to come from the

Airport and Airway Trust Fund. How was this trust fund share determined?

Mr. McDaniel. This is based, Mr. Chairman, on the cost allocation studies, which have been done, leading us to conclude that approximately 85 percent of the costs of building and operating the aviation system are properly attributable to the trust fund. The 85 percent is obtained by financing 75 percent of the operational account and 100 percent of the airport grants, facilities and equipment and research and development costs from the Trust Fund. This equals 85 percent in total.

Mr. Lehman. This is a considerable increase over the amount provided from the trust fund in previous years. Why do you believe this increased user contribution is warranted?

Mr. McDaniel. Basically because the trust fund has not been paying the proper share of the building and operating costs of the system, Mr. Chairman.

Mr. Lehman. The proper share would be—

Mr. McDaniel. Eighty-five percent, in our view, in total.

Mr. Lehman. You indicate that you intend to propose additional authorizing legislation for this increased user contribution. What is the status of that legislation?

Mr. McDaniel. The legislation which would allow the transfer from the trust fund is currently at the Office of Management and Budget and should be submitted shortly.

Mr. Lehman. According to the Congressional Budget Office (February 1985), general aviation users pay only about 10 percent of their fair share of all aviation expenditures, while commercial aviation users (passengers) overpay by about 20 percent.

Will your legislation address this apparent inequity?

Mr. McDaniel. Without commenting on the accuracy of the CBO figures, Mr. Chairman, that will be addressed in the reauthorizing legislation that we submit later this year.

HEADQUARTERS ADMINISTRATION RECONCILIATION

Mr. Lehman. On page 2 you show fiscal year 1986 obligations for headquarters administration of $41,562,000. Would you reconcile this amount with the $61,631,000 after sequestrating the level shown on page 12?

[The information follows:]

In the FY 1987 budget, a new structure has been proposed incorporating Headquarters Administration into the Operations appropriation as a separate activity. The $41,562,000 represents the Headquarters Administration activity funds before Gramm-Rudman-Hollings reductions were applied. The corresponding amount for Headquarters Administration activity after the Gramm-Rudman-Hollings reduction is $40,172,000 which is displayed in the crosswalk below.

[Dollars in thousands]

	Positions	Amount
Fiscal year 1986 enacted appropriation	629	$64,400
Reduction pursuant to Public Law 99-177	0	(2,769)
Fiscal year 1986 adjusted	629	61,631
Realignment of functions to installation and materiel	(3)	(78)
Realignment of functions to human resource management	(125)	(8,416)

[Dollars in thousands]

	Positions	Amount
Realignment of functions to direction, staff, and supporting services	0	(12,965)
Total, headquarters administration	501	40,172

Three positions are being returned to Installation and Materiel where they were originally budgeted. In order to highlight the emphasis put on human relations, a Human Resource Management activity will be created to comprise the Centralized Training activity and the labor relations and personnel management subactivities from Direction, Staff, and Supporting Services. This activity will now be under the responsibility of one Associate Administrator rather than two. Certain ADP and IRMP costs will be reported under Direction, Staff, and Supporting Services because the actual costs for these have been associated with non-headquarters locations.

FY 1986 OPERATIONS APPROPRIATION AFTER SEQUESTRATION

Mr. **Lehman**. Would you insert revised pages 7 and 8 of your justifications in the record showing a fiscal year 1986 column after sequestrating?

[The information follows:]

STANDARD FORM 300

287-1

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
OPERATIONS
Object Classification (in thousands of dollars)

Identification code 69-1301-0-1-402		19 85	19 86	19 87
Direct obligations:				
Personnel compensation:				
11.1	Full-time permanent	1,538,984	1,449,088	1,543,170
11.3	Other than full-time permanent	20,771	20,425	20,522
11.5	Other personnel compensation	169,453	178,604	168,181
11.8	Special personal services payments	3,507	911	925
11.9	Total personnel compensation	1,732,715	1,649,028	1,732,798
12.1	Personnel benefits: Civilian	296,713	299,993	308,794
13.0	Benefits for former personnel	2,555	2,400	2,400
21.0	Travel and transportation of persons	63,331	72,607	87,230
22.0	Transportation of things	19,169	18,994	18,422
23.1	Standard level user charges	25,298	26,419	29,650
23.2	Rental payments to others	28,042	60,663	65,831
23.3	Comm., utilities and misc. charges	92,585	62,206	69,081
24.0	Printing and reproducation	11,013	11,628	12,083
25.0	Other services	199,556	207,762	226,090
26.0	Supplies and materials	68,269	61,428	67,443
31.0	Equipment	16,795	15,741	12,276
32.0	Lands and structures	623	275	255
42.0	Insurance claims and indemnities	206	196	200
99.0	Subtotal, direct obligations, Federal Aviation Administration	2,556,870	2,489,340	2,632,553

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STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

287-2

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
OPERATIONS
Object Classification (in thousands of dollars)

Identification code 69-1301-0-1-402	19 85 actual	19 86 estimate	19 87 estimate
Reimbursable Obligations: Personnel Compensation:			
11.1 Full-time permanent............	13,945	14,000	13,500
11.3 Other than full-time permanent.	594	600	600
11.5 Other personnel compensation...	1,307	1,300	1,300
11.8 Special personal services payments....................	319	300	300
11.9 Total personnel compensation...	16,165	16,200	15,700
12.1 Personnel benefits: Civilian..	1,720	1,700	1,645
21.0 Travel and transportation of persons.....................	1,156	1,200	1,200
22.0 Transportation of things.......	224	200	200
23.1 Standard level user charges....	7	.....	.....
23.2 Rental payments to others......	274	300	300
23.3 Comm., utilities, and misc. charges......................	1,919	2,000	2,000
24.0 Printing and reproduction......	148	100	100
25.0 Other services................	2,287	2,400	2,955
26.0 Supplies and materials.........	6,376	6,400	6,400
31.0 Equipment......................	1,486	1,500	1,500
99.0 Subtotal, reimbursable obligations, Federal Aviation Administration......	31,762	32,000	32,000
ALLOCATION TO DEPARTMENT OF DEFENSE			
23.3 Comm., utilities and misc. charges................	156,243	156,400	167,227
99.9 Total obligations............	2,744,875	2,677,740	2,831,780
(Idem omit: [illegible])	(Idem omit: [illegible])	(Idem omit: [illegible])	(Idem omit: [illegible])

GPO : 1981 O - 341-526 (6500)

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PERSONNEL BENEFITS

Mr. LEHMAN. On page 7, why are your personnel benefits estimated to decrease by about $21.5 million from fiscal year 1985 to fiscal year 1987?

[The information follows:]

Certain of the object class data on page 7 were printed incorrectly. A corrected object class table is provided for the record. The revised object class data show compensation decreasing by about $8.3 million while benefits increase by about $6.1 million. The reason benefits do not decrease with compensation is that PCS move costs are included in the latter cost object.

TRAVEL COSTS

Mr. LEHMAN. During this same two-year period, you show an increase of $22,176,000, or 35 percent, for travel. This is clearly more than inflation.

What is the reason for this 35 percent increase for travel?

Mr. PETERSON. The increase is primarily in our training travel program, specifically increases related to air traffic initial qualification training, aviation inspector training, and system maintenance technician and air marshal training.

Mr. LEHMAN. Would you update for the record the table on travel costs that was included on page 378 of last year's hearing record, including a brief explanation of the changes?

[The information follows:]

OPERATIONS

[In thousands of dollars]

	Fiscal year—		
	1985	1986	1987
Training travel	25,415	29,656	38,951
Job performance travel	28,573	33,258	35,381
Other travel	9,343	11,324	12,898
Transportation of things	19,169	19,102	18,422
Total	82,500	93,340	105,652

The increase from FY 1986 to FY 1987 is primarily due to (1) change of station, training travel, and job related costs for air traffic controllers and aviation safety inspectors; and (2) training travel costs for airway facilities maintenance technicians.

RENT DECREASES

Mr. LEHMAN. Would you explain for the record your estimated decreases in other rent in fiscal years 1986 and 1987?

[The information follows:]

Certain of the object class data on page 7 were printed incorrectly. A corrected object class table is provided for the record. The revised object class data show other rent increasing in both FY 1986 and FY 1987. The apparent large increase from 1985 to 1986 is due to reclassification of certain costs from object class 23.3 to 23.2 in FY 1986 for the first time. As a whole, major object class 23 increases by approximately 6 percent annually from 1985 to 1987.

~~[illegible]~~ 291-1

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
OPERATIONS
Object Classification (in thousands of dollars)

Identification code 69-1301-0-1-402	1985 actual	1986 estimate	1987 estimate
Direct obligations:			
Personnel compensation:			
11.1 Full-time permanent	1,538,984	1,540,662	1,543,170
11.3 Other than full-time permanent	20,771	20,425	20,522
11.5 Other personnel compensation	169,453	179,055	168,181
11.8 Special personal services payments	3,507	911	925
11.9 Total personnel compensation	1,732,715	1,741,053	1,732,798
12.1 Personnel benefits: Civilian	296,713	302,749	308,794
13.0 Benefits for former personnel	2,555	2,400	2,400
21.0 Travel and transportation of persons	63,331	74,238	87,230
22.0 Transportation of things	19,169	19,102	18,422
23.1 Standard level user charges	25,298	26,419	29,650
23.2 Rental payments to others	28,042	62,849	65,831
23.3 Comm., utilities and misc. charges	92,585	71,750	69,081
24.0 Printing and reproducation	11,013	11,629	12,083
25.0 Other services	199,556	211,775	226,090
26.0 Supplies and materials	68,269	66,200	67,443
31.0 Equipment	16,795	16,040	12,276
32.0 Lands and structures	623	275	255
42.0 Insurance claims and indemnities	206	198	200
99.0 Subtotal, direct obligations, Federal Aviation Administration	2,556,870	2,606,677	2,632,553

291-2

STANDARD FORM 300
July 1964, Bureau of the Budget
Circular No. A-11, Revised.
300-101

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
OPERATIONS
Object Classification (in thousands of dollars)

Identification code 69-1301-0-1-402	19 85 actual	19 86 estimate	19 87 estimate
Reimbursable Obligations: Personnel Compensation:			
11.1 Full-time permanent............	13,945	14,000	13,500
11.3 Other than full-time permanent.	594	600	600
11.5 Other personnel compensation...	1,307	1,300	1,300
11.8 Special personal services payments......................	319	300	300
11.9 Total personnel compensation...	16,165	16,200	15,700
12.1 Personnel benefits: Civilian..	1,720	1,700	1,645
21.0 Travel and transportation of persons.......................	1,156	1,200	1,200
22.0 Transportation of things.......	224	200	200
23.1 Standard level user charges....	7	.....	.....
23.2 Rental payments to others......	274	300	300
23.3 Comm., utilities, and misc. charges.......................	1,919	2,000	2,000
24.0 Printing and reproduction......	148	100	100
25.0 Other services.................	2,287	2,400	2,955
26.0 Supplies and materials.........	6,376	6,400	6,400
31.0 Equipment......................	1,486	1,500	1,500
99.0 Subtotal, reimbursable obligations, Federal Aviation Administration......	31,762	32,000	32,000
ALLOCATION TO DEPARTMENT OF DEFENSE			
23.3 Comm., utilities and misc. charges.................	156,243	157,700	167,227
99.9 Total obligations............	2,744,875	2,796,377	2,831,780

OPS-8

COMMUNICATIONS, UTILITIES AND MISCELLANEOUS

Mr. **Lehman**. Your communications, utilities and miscellaneous charges are estimated to increase by more than $32 million from fiscal year 1985 to fiscal year 1987. This is also about a 35 percent increase in two years.

What is the reason for this?

Mr. **Peterson**. Mr. Chairman, there are two elements in that increase. First, 50 percent of it is a misclassification of other rental charges to this particular account.

The second element of about $16.5 million is due primarily to telecommunication increases, increases in rental of ADP, and other equipment, and penalty mail costs paid from other sources in fiscal year 1985.

Mr. **Lehman**. What is misclassification?

Mr. **Peterson**. We had certain elements of cost that we put into this particular account. They are in the "other rental" category. They should have been placed someplace else.

OTHER SERVICES

Mr. **Lehman**. During this same two-year period, your other services costs will increase by $39,657,000, or nearly 20 percent.

What are the reasons for this increase?

Mr. **Peterson**. There are several elements in that increase. One was the $10 million for the funding of a pilot maintenance contract.

Second, there is additional contracting effort expected due to the A-76 process. Also, there are the normal price increases.

CONTRACTUAL TRAINING

Mr. **Lehman**. Last year it was indicated that the largest single item under other services was contractual training services, which amounted to an estimated $21.3 million.

What organizations receive these funds and are you projecting an increase in contractual training in fiscal year 1987?

[The information follows:]

Organizations receiving funds for the performance of contractual training services are: universities, manufacturers furnishing new equipment to FAA, independent training contractors, and other federal government agencies. An increase in contractual training is projected for fiscal year 1987.

CONTRACTUAL STUDIES

Mr. **Lehman**. Another large part of your other services request is contractual studies. What are some of your major contractual studies?

[The information follows:]

Because of the austere nature of our FY 1987 Budget, contractual studies no longer make up a large part of "other services". The few remaining contractual studies being conducted are:

(1) Glass Cockpit Technology Study
(2) Runway Incursion Safety Study
(3) Airport Safety Study
(4) Uncontrolled Airport Safety Study

AVIATION SAFETY ANALYSIS SYSTEM

Mr. LEHMAN. Last year it was indicated that the estimated funding for the development of your aviation safety analysis system would be $11.5 million in fiscal year 1987.

What is the status of this effort and is the funding level you projected last year still valid?

[The information follows:]

Nine (9) subsystems are fully operational. These systems are: Automated Federal Aviation Regulations Subsystem (AFARS), Work Program Management Subsystem (WPMS), Health Information Subsystem (HIS), Simulator Inventory and Evaluation Schedule Subsystem (SIESS), Civil Aviation Security Information Subsystem (CASIS), Enforcement Information Subsystem (EIS), Automated Exemption Subsystem (AES), Project Information and Control Subsystem (PICS), Automated Resume Subsystem (ARS).

Thirteen (13) more subsystems are in various stages of design and development. These subsystems are: Safety Analysis Subsystem (SAS), Service Difficulty Report Subsystem (SDRS), Manufacturing Inspection Management Information Subsystem (MIMIS), Accident Prevention Subsystem (APS), Air Transportation Analysis Subsystem (ATAS), Airworthiness Information Subsystem (AWIS), Aircraft Evaluation Group Subsystem (AEGS), Aircraft Safety Data Subsystem (ASDS), Comprehensive Airmen Information Subsystem (CAIS), Near Mid-Air Collision Subsystem (NMACS), Automated Archives Subsystem (AAS), NTSB Recommendations Subsystem (NRECS), and NTSB/FAA Common Data Base Subsystem (CDBS).

About 1,500 FAA employees from 162 work sites have received subsystem training. Approximately 600 new work stations will be added to the existing 360 work stations by 1987. We are focusing heavily on user training and acceptance.

We have adjusted our program planning to reflect current and projected fiscal constraints. Our projected funding for FY-1987 is $8 million. This reduction in planned funding will result in an extended development and implementation cycle for the remaining ASAS subsystems.

OTHER SERVICES

Mr. LEHMAN. Would you provide for the record a breakdown of your request for other services similar to that on pages 382 and 383 of last year's hearing record, including the comparable amounts for fiscal years 1985 and 1986 after sequestrating?

[The information follows:]

OTHER SERVICES
Operations Appropriation Fiscal Year 1987 Estimates
(Dollar amounts in thousands)

	FY 1985 Actual	FY 1986 Column of FY 1987 Congressional	FY 1986 Column of FY 1987 Congressional after Sequestering	FY 1987 Column of FY 1987 Congressional	Difference FY 1987 over FY 1986 Before Sequester
Not otherwise classified	58,698	59,146	56,131	43,718	(15,428)
Aeronautical charting services	10,900	10,900	10,900	10,900	0
Contractual data processing services	13,213	17,020	17,020	19,050	2,030
Contractual cost of exchange & repair items:					
General stocks and stores	8,430	10,326	10,326	10,909	583
Aircraft stocks and stores	2,431	2,530	2,530	2,530	0
Repair, alteration and maintenance of technical buildings, facilities & grounds	8,898	8,705	8,705	9,106	401
Contractual training services	23,155	25,426	24,433	31,047	5,621
Aircraft rental	4,951	4,126	4,227	4,873	747
Contractual time-sharing teleprocessing services	6,513	7,495	7,874	8,162	667
Flight training	6,132	6,132	6,132	8,532	2,400
Repair/maintenance of administrative, operating, working and test equipment	3,888	6,647	6,647	7,181	534
Repair, and maintenance of ADP equipment	6,209	6,779	9,325	5,958	(821)
Repair, alteration and maintenance of administrative buildings and grounds	5,621	5,714	5,714	5,848	134
Nonflight training	2,591	2,592	46	2,593	1
Overhaul of aircraft engines	3,639	3,639	3,639	3,846	207
Regulatory analysis	2,082	2,432	2,261	4,465	2,033
Physical examinations	2,188	1,546	1,161	1,813	267
Aviation Safety Reporting Program	1,500	1,500	1,500	1,500	0
Contractual Studies	565	265	265	897	632
Contract maintenance	0	0	0	10,000	10,000
Storage of Household Effects	2,359	2,489	2,489	2,655	166
Airport Data Collections	1	1	1	1	0
Audio Visual Services	180	138	209	159	21
Aircraft Routine Inspection and Repair/Modifications	3,056	3,056	3,056	3,056	0
Security Investigations	212	262	262	229	(33)
Aviation Weather	2,900	2,900	2,900	2,900	0
Janitorial and Guard Service	14,023	14,319	14,319	15,159	840
Film Production Distribution	221	190	190	203	13
Substance Abuse Program	0	500	500	800	300
Aviation Safety Analysis System (ASAS)	5,000	5,000	5,000	8,000	3,000
Total -- Other Services	199,556	211,775	207,762	226,090	14,315

FUEL PRICES

Mr. **Lehman**. Last year you estimated that about $15 million would be required in fiscal year 1986 for fuel and oil. What is your present estimate?

[The information follows:]

Our present estimate is approximately $12 million. This decrease is attributable to lower fuel prices and reduction of flight hours.

POLICY STUDIES

Mr. **Lehman**. Last year it was indicated that you planned to complete a policy study during calendar year 1985 on airport and airway cost allocation and recovery. What did your study conclude?

Mr. **McDaniel**. It is not quite concluded, but the preliminary results would indicate that the appropriate share for air carriers operating in the system is approximately 55 to 60 percent of the total cost, general aviation 25 to 30 percent, and public and military aviation 12 to 19 percent.

Mr. **Lehman**. You also indicated that you planned to finalize a Federal airport capacity and access policy. What does this policy provide?

Mr. **McDaniel**. Again, the policy is still in formulation. It was published in draft form in the Federal Register in January this year. We have held three hearings, one in Washington, D.C., one in Denver, Colorado, and one in Los Angeles, California.

Comments are due to be submitted in writing today and we expect by this summer to issue a final policy statement.

Mr. **Lehman**. Would you list for the record the policy studies you plan to complete during calendar year 1986?

[The information follows:]

During calendar year 1986, the following policy studies and/or determinations are anticipated:

(a) Final Administration proposal for post 1987 Airport and Airway Improvement legislation.
(b) Promulgation of a final policy statement on Airport Capacity and Access.
(c) Airport and Airway Cost Allocation and Recovery Study.
(d) Policy on determination of Premium Aviation Insurance Rates.
(e) Revision of insurance indemnity agreements.

ALLOCATION TO DOD

Mr. **Lehman**. On page 8, would you explain your requested $167 million allocation to the Department of Defense?

[The information follows:]

The $167 million is intended to represent the operation portion of the leased telecommunications program that is procured through the Defense Commercial Communication Office (DECCO) at Scott Air Force Base, Illinois, DECCO is responsible for leasing and purchasing communications service facilities, and equipment in support of the FAA telecommunication requirements.

There is an error on page 8 and in reality, the $167 million is made up of two parts with most, but not all, to be obligated by DECCO for the purposes stated above. A total of $159 million is scheduled for transfer to DECCO with the remaining $8 million for other leased telecommunication support procured through the FAA. The "other" funds will be used to provide dial-up-selected weather information through the Interim Voice Response System and management and operation support for FAA operational communication by the Transportation Systems Center in Cambridge, Massachusetts. We regret the erroneous figure on page 8, however the above accurately correlates with our justification sheet (white sheet) in the budget.

OPERATIONS EMPLOYMENT

Mr. **Lehman**. Last year it was projected that your March 31, 1986, employment under your operations appropriation would be 42,533. What was your comparable actual employment as of March 31, 1986?

Mr. **Peterson**. Mr. Chairman, FAA's full-time permanent employment as of the 31st of March was 42,159.

Mr. **Lehman**. Is your estimated full-time equivalent employment of 43,711 workyears for fiscal year 1986 still valid?

Mr. **Peterson**. Mr. Chairman, let me give you a dual answer on that one.

First of all, the $80 million supplemental that we discussed earlier today has not been factored into this particular budget submission. If that were not allowed, FTE usage would be reduced because of the steps necessary to live within a lowered funding availability. However, if that supplemental were granted, we may be about 200 to 300 FTEs above that figure due to inspectors and the air traffic workforce.

MONTH-END EMPLOYMENT

Mr. **Lehman**. Would you provide for the record a breakdown by month of your projected end-of-month employment for fiscal years 1986 and 1987 under your operations appropriation?

[The information follows:]

Operations Appropriation, Projected End-of-Month Employment, Fiscal Years 1986–1987

March, 1986	42,792
April, 1986	42,798
May, 1986	42,785
June, 1986	42,806
July, 1986	42,772
August, 1986	42,701
September, 1986	42,426
October, 1986	42,431
November, 1986	42,436
December, 1986	42,441
January, 1987	42,446
February, 1987	42,452
March, 1987	42,458
April, 1987	42,465
May, 1987	42,472
June, 1987	42,479
July, 1987	42,486
August, 1987	42,493
September, 1987	42,500

Note.—Reflects the proposed merger of Headquarters Administration into Operations in FY 1987; in FY 1986 it is shown for comparative purposes.

POSITIONS AND END-OF-YEAR EMPLOYMENT

Mr. **Lehman**. Would you also update the table on positions and employment that was included on page 390 of last year's hearing record?

[The information follows:]

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FEDERAL AVIATION ADMINISTRATION FULL-TIME PERMANENT POSITIONS/END-OF-YEAR EMPLOYMENT

	Actual employment as of		Fiscal year 1986		Fiscal year 1987	
	Sept. 30 1985	March 31 1986	FTP Pos.	EOY employment	FTP Pos.	EOY employment
Operations:						
Air Traffic..........................	24,279	24,315	25,130	24,069	24,559	23,529
Systems Maintenance..................	9,724	9,479	10,397	9,564	10,038	9,536
Installation and Materiel...........	1,426	1,405	1,491	1,415	1,491	1,416
Aviation Standards-Regulatory.......	2,297	2,335	2,588	2,484	2,726	2,590
Aviation Standards-Certification....	708	685	775	736	775	736
Aviation Standards-Aircraft.........	733	713	821	773	821	780
Aviation Standards-Medical..........	193	192	225	214	225	214
Aviation Standards-Security.........	263	326	436	414	436	414
Aviation Safety.....................	36	40	41	39	41	39
Airports............................	440	440	472	448	472	448
Development Direction...............	130	124	138	130	138	131
Human Resource Management...........	1,231	1,241	1,295	1,231	1,295	1,230
Direction, Staff and Support........	1,071	1,020	1,005	985	1,005	955
Headquarters Administration.........	479	477	501	475	507	482
Subtotal, Operations.............	43,010	42,792	45,315	42,977	44,529	42,500
Operation and Maintenance, MWA.........	602	590	707	672	707	672
Facilities and Equipment...............	935	928	962	914	1,162	1,104
Research, Engineering & Development....	801	784	845	803	645	613
Aviation Insurance.....................	2	2	2	2	2	2
Total, direct....................	45,350	45,096	47,831	45,368	47,045	44,891
Total, reimbursable..............	388	388	521	521	488	488
Grand total, FAA.................	45,738	45,484	48,352	45,889	47,533	45,379

OPERATIONS APPROPRIATION

Mr. **Lehman**. Would you update the tables on pages 12 and 13 of your justifications to include your $80 million fiscal year 1986 supplemental request?

[The information follows:]

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
SUMMARY OF APPROPRIATION REQUIREMENTS

Operations

(General and Trust Funds)
(Dollars in Thousands)

Activity	1986 Enacted [1]	1986 After Sequestering [1]	1986 Adjusted [1]	1987 Estimate	
Operation of Traffic Control System....................	$1,211,514	$1,159,419	$1,203,513	1,204,501	
Installation and Materiel Services.........................	191,368	183,139	186,456	187,788	
Maintenance of Traffic Control System...................	739,160	707,376	733,035	761,058	
Administration of Aviation Standards Program................	282,365	270,451	270,623	298,938	
Development Direction..............	9,965	9,537	9,872	9,031	
Administration of Airports Program..........................	25,703	24,598	26,957	26,181	
Human Resource Management..........	0	0	183,443	205,343	
Centralized Training...............	97,479	93,287	0		
Direction, Staff and Supporting Services.........................	142,423	136,302	71,669	72,027	
Headquarters Administration........	0	0	40,172	34,913	
Total, Operations................	2,699,977	2,584,109	2,725,740	2,799,780	
Headquarters Administration........	64,400	61,631	0 [2]		[2]
Total, Operations & Headquarters.	2,764,377	2,645,740	2,725,740	2,799,780	

[1] Includes no-year funding of $5,377,000 carried over from FY 1985.
[2] In FY 1987 the Headquarters Administration appropriation is merged into the Operations appropriation.

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

SUMMARY OF PROGRAM REQUIREMENTS

Operations
(Dollars in Thousands)

	1986 Adjusted		1987 Estimate		Difference	
Activity	Positions	Amount [1]	Positions	Amount	Positions	Amount
Operation of Traffic Control System	25,130	$1,203,513	24,559	$1,204,501	(571)	$988
Installation and Materiel Services	1,491	186,456	1,491	187,788	0	1,332
Maintenance of Traffic Control System	10,397	733,035	10,038	761,058	(359)	28,023
Administration of Aviation Standards Program	4,886	270,623	5,024	298,938	138	28,315
Development Direction	138	9,872	138	9,031	0	(841)
Administration of Airports Program	472	26,957	472	26,181	0	(776)
Human Resource Management	1,295	183,443	1,295	205,343	0	21,900
Direction, Staff and Supporting Services	1,005	71,669	1,005	72,027	0	358
Headquarters Administration	501	40,172	507	34,913	6	(5,259)
Total	45,315	2,725,740	44,529	2,799,780	(786)	74,040

[1] Includes no-year funding of $5,377,000 carried over from FY 1985.

WITHIN-GRADE AND GRADE-TO-GRADE PROMOTIONS

Mr. **Lehman**. Would you indicate, by activity, the increases requested for within-grade and grade-to-grade promotions, similar to that included on page 391 of last year's hearing record?

[The information follows:]

[Dollars in thousands]

Activity	Within-grade and grade-to-grade promotion totals	
	1986 [1]	1987 [2]
Air traffic	$7,548	$7,988
Installation and materiel	295	365
Systems maintenance	2,330	3,082
Aviation standards	1,078	1,061
Development direction	14	13
Airports	59	40
Human resource management	255	191
Direction, staff and support	139	129
Headquarters administration	57	63
Total operations appropriation	11,775	12,932

[1] For within-grade and grade-to-grade increases approved in fiscal year 1986 but effective only a portion of the fiscal year.

[2] For part year funding of within-grade and grade-to-grade increases effective in fiscal year 1987.

A–76

Mr. **Lehman**. On page 15 you state that in fiscal year 1986 you have reduced your full-time equivalents by 558 due to A–76. Last year your estimated dollar savings as a result of A–76 studies was $4.4 million.

Will you reach these FTE and dollar reduction levels?

[The information follows:]

The 558 FTE reduction was an allocated cut based on estimates of savings to be realized through A–76. Estimated savings of 310 FTE's and $1.0 million will be realized in fiscal year 1986 due to A–76 contracting. In addition, there have been a number of A–76 projects started in fiscal year 1986, but due to the time required to complete a thorough A–76 review (18–24 months), the actual FTE and dollar savings will not occur until fiscal year 1987 or 1988. Until such time as A–76 savings are realized, FTE and dollar reductions that were budgeted, but not realized, will be absorbed throughout the FAA.

Mr. **Lehman**. Last year it was indicated that your largest saving in fiscal year 1985 was in janitorial services. In which areas will you be doing A–76 studies for fiscal year 1987 and what is the estimated 1987 dollar savings associated with these studies?

Mr. **Goldman**. The major studies that we will be starting in fiscal year 1987 relate to our depot operation and also the FAA academy, both at the Aeronautical Center, and our research and development facilities at the Technical Center.

Mr. **Lehman**. Would you provide for the record a breakdown of your fiscal year 1986 A–76 savings including the type of work contracted out, the number of positions reduced, dollar savings, and names of the contractors who will be performing the work?

[The information follows:]

Prior year projects completed under the A–76 program resulted in annual savings of 310 FTE's and about $1.0 million starting in fiscal year 1986. This program consisted of numerous small projects, the vast majority of which were less than 10 FTE's; e.g., ADP operations, mail distribution, word processing centers, drafting, supply and facility maintenance functions. Two activities of significant size which converted to contract were: ADP operations (35 FTE's) with work being performed by FKW, Inc. and NAS Documentation (21 FTE's) with work being performed by the GPO.

FAA's current year A-76 program is well underway, but due to the time to complete an A-76 review, the anticipated FTE and dollar savings will not be realized until fiscal year 1987 or 1988. Contractors should be designated by that time. The type of work being reviewed in fiscal year 1986 is summarized below:

ADP Services
Audiovisual
Training
Payroll
Medical Clinics
Supply/Warehousing
Motor Pool/Vehicle Repair
Operation & Maintenance of Test Facilities
Aircraft Maintenance

EMPLOYEES BY GRADE LEVEL

Mr. LEHMAN. Would you provide for the record a table, similar to the one on pages 393 and 394 of last year's hearing record, showing the number of employees at each GS grade for fiscal years 1985, 1986 and 1987?

[The information follows:]

NUMBER OF FAA EMPLOYEES BY GRADE LEVEL
OPERATIONS DIRECT ONLY

Grade	Fiscal years		
	1985 Actual	1986 Estimate	1987 Estimate
GS-16	1	1	1
GS-15	2,020	2,018	1,995
GS-14	7,042	7,035	6,954
GS-13	5,968	5,963	5,895
GS-12	8,390	8,382	8,285
GS-11	7,337	7,330	7,245
GS-10	1,852	1,851	1,830
GS-09	2,604	2,602	2,572
GS-08	181	181	179
GS-07	2,770	2,768	2,736
GS-06	978	977	966
GS-05	1,667	1,666	1,647
GS-04	636	635	628
GS-03	124	124	123
GS-02	3	7	7
GS-01	..	..	..
Total	41,573	41,540	41,063

FACILITY COMMISSIONINGS

Mr. LEHMAN. On page 15 you indicate that you are planning to commission 121 new facilities in fiscal year 1987. How much progress have you made to date during fiscal year 1986 and will you reach your projected level of 139 new commissionings?

[The information follows:]

The 139 new commissionings, referred to on page 395 of the FY 1986 testimony, were the number of commissionings of selected facilities planned for FY 1985. We actually commissioned 165 of the selected facilities in FY 1985.

Mr. LEHMAN. Last year it was indicated that you planned to commission 13 automated flight service stations, 2 instrument landing systems and 88 VASIs (visual approach slope indicators) in fiscal year 1986. Would you indicate how many of these have actually been commissioned to date?

[The information follows:]

As of April 24, 1986, we have commissioned one automated flight service station (AFSS), one instrument landing system (ILS), and 30 visual approach slope indicators (VASI).

PERSONNEL FOR NEW FACILITIES

Mr. **Lehman**. Would you also indicate for the record the estimated personnel increases associated with each of the various categories of new facilities scheduled to be commissioned as shown on pages 18 through 21 and also show decreases associated with any facilities that will be decommissioned during fiscal year 1987?

[The information follows:]

Commissionings:	*Maintenance personnel decreases*
ATCRB	[1]0
ASR	3
AFSS	26
DF	2
FSDPS	9
RCO	[1]0
ALS	6
DME	1
ILS	4
MLS	2
ODALS	1
REIL	1
RVR	2
VASI	2
Total personnel increases	59

Decommissionings:	*Maintenance personnel increases*
ARSR	2
TRACON	2
FSS (domestic)	18
DME	[1]0
Total personnel decreases	22

[1] Less than an employee year.

FY 1986 RESTORATION

Mr. LEHMAN. In your fiscal year 1987 budget you are requesting restoration of all of the fiscal year 1986 Gramm-Rudman-Hollings reduction.

However, in fiscal year 1986 you are requesting a supplemental of $80 million, approximately $36 million less than the Gramm-Rudman-Hollings reduction.

Why can you get by in 1986 but not in 1987 with an $80 million restoration?

Mr. PETERSON. Mr. Chairman, we earlier indicated the problems FAA is experiencing in order to live within the tight fiscal 1986 constraints. Quite frankly, we would not be able to live for two years within those constraints, and I am talking particularly about cutbacks in stocks and stores and other actions that we have had to take this fiscal year.

OPERATION OF TRAFFIC CONTROL SYSTEM

Mr. LEHMAN. Turn to operation of traffic control system. On page 24, to what extent has the activity during fiscal year 1986 been consistent with your 1986 activity projections?

Mr. McDANIEL. Mr. Chairman, for center operations our projections of a 4 percent increase in traffic have been right on the mark.

However, our projections for instrument and tower operations were somewhat higher than the actual activity.

Mr. LEHMAN. Last year you projected flight services of 59.6 million in 1985 and 62.2 million in 1986. This year you have revised these 1985 and 1986 flight services to 54.6 million and 56.5 million respectively, representing decreases of 8 percent in 1985 and 9 percent in 1986.

Your projections were also about 10 percent off in 1983 and 1984.

Why have your flight service forecasts been so far off target for the past four or five years?

Mr. McDANIEL. The relationships on which we project activity at flight service stations, Mr. Chairman, have changed as the economy has changed, and we are not quite certain that the projection relationships which existed previously, continue to exist.

We anticipate that flying grows as the economic condition of the country improves. In recent years, this has not proven true to the extent that it has in the past.

We are now doing an investigation of some depth as to exactly why the activity has not grown as we have anticipated.

Mr. LEHMAN. According to your figures, flight service activity has declined by about 15 percent in the past four years. However, as you have in each of the past four years, you are again projecting that this trend will be reversed in fiscal year 1986.

To what extent is this actually happening?

Mr. McDANIEL. It has not. It continues to decline—about 8 percent so far this year below what we expected.

Mr. LEHMAN. Have you observed any significant increase in general aviation activity during the past two or three months?

Mr. McDANIEL. No. Some increase in local general aviation activity, but not in itinerant operations. That has continued to decline.

Mr. **Lehman**. What level of economic growth do your fiscal year 1987 activity projections assume?

Mr. **McDaniel**. We use the official administration forecasts of a 4 percent growth in gross national product, and about a 4.1 percent growth in consumer price index, and a decrease of 4.3 percent in the oil and gas deflator.

Mr. **Lehman**. General aviation doesn't necessarily parallel the growth of the GNP.

Mr. **McDaniel**. No, historically the GNP is a major factor, but when you separate out the actual costs of operating within general aviation, we find that even though the GNP is growing and costs in other areas are going down, the cost of operating general aviation is going up, and that is a big determinant in the amount of flying that is done.

CENTER EMPLOYMENT

Mr. **Lehman**. On page 23 you are requesting 9,773 positions and $81,981,000 for your centers. What is your current employment?

[The information follows:]

As of March 31, 1986, the total center employment is 9,127. This includes 36 positions for Washington Flow Control.

Mr. **Lehman**. Would you insert in the record the employment levels assumed for centers as of September 30, 1986, and September 30, 1987?

[The information follows:]

The budget assumes end of year employment for centers as shown:

September 30, 1986	9,243
September 30, 1987	9,382

STRUCTURED STAFFING

Mr. **Lehman**. Last year we discussed the fact that you promoted a large number of controllers twice in one year. Does your fiscal year 1987 budget assume a continuation of this policy? If so, why do you feel this is necessary and what will it cost you in fiscal year 1987?

Mr. **Luffsey**. No, that is essentially done. There is nothing in the budget for structured staffing and the program has been discontinued, and accelerated promotions are the only thing left, and they are primarily for GS-9s.

MERIT PAY INCREASES

Mr. **Lehman**. You are requesting an increase of $779,000 for merit pay increases effective in fiscal year 1987. You proposed a similar increase in fiscal year 1986. What is the total amount your budget included for merit pay for fiscal year 1987?

[The information follows:]

The total amount requested for FY 1987 is $2,050,000.

OVERTIME IN CENTERS

Mr. **Lehman**. We have already discussed your air traffic controller overtime to some extent. You are projecting decreases of

$5,438,000 and 180,125 hours for overtime at your centers. This is similar to the decrease projected for fiscal year 1986 which did not occur.

How confident are you that you will be able to reduce center overtime by more than 25 percent in fiscal year 1987?

Mr. **Luffsey**. We are reasonably confident, sir. The FPLs are increasing. The cross option program is bringing people into the critically staffed facilities who will become FPLs in this year.

Our shift alignment to meet the workload is helping us in the overtime sense.

Mr. **Lehman**. Would you update for the record the table on page 405 of last year's hearing record showing hours and costs of overtime in your centers for fiscal years 1981 through 1987?

[The information follows:]

[Dollars in thousands]

Year	Hours	Amount
1981	313,410	$8,973.5
1982	977,289	30,573.6
1983	689,453	22,350.5
1984	672,559	21,169.9
1985	615,037	19,004.8
1986 estimate	585,125	18,806.0
1987 estimate	405,000	13,368.0

SUPPORT AND ADVISORY STAFF

Mr. **Lehman**. You indicate that you plan to reduce overhead staffing at your centers by 180 positions. What are the responsibilities of these overhead personnel and how did a situation in which you have excessive overhead staff occur, particularly when you have budget constraints and a shortage of controllers?

Mr. **Luffsey**. We are constantly evaluating our staffing requirements as conditions change. And during the strike recovery, we needed the training and other support functions and they were very high.

As we increase our levels of FPL controllers, the amount of support and supervisory staff decreases and the action will enable us to return the FPLs performing those functions to controller positions over a period of time.

Another area to show staffing savings is standardizing the support staff to controller ratios for all regions across regions.

Mr. **Lehman**. How do you control the number of overhead personnel employed by your centers?

Mr. **Luffsey**. It is based on the staffing standards which create the allocations for the controller work force. We also monitor constantly at both regional and national levels. In that sense, we control through an evaluation continuously.

CENTER POSITIONS AND EMPLOYMENT

Mr. **Lehman**. Would you provide for the record a breakdown of your end-of-year center staffing for fiscal years 1983 through 1987

showing the number of onboard full-performance controllers, developmentals, air traffic assistants, supervisory personnel, and overhead staff?

[The information follows:]

CENTER STAFFING DATA

Category	1983	1984	1985	[1] 1986	[2] 1987
FPL controllers	2,686	2,913	3,147		
Controllers [3]				5,519	5,741
Developmentals	2,506	2,586	2,750		
Developmental pipeline [3]				677	730
Air traffic assistants	538	788	807	935	935
Supervisory and staff	2,245	2,037	2,189	2,112	1,976
Total	7,975	8,324	8,893	9,243	9,382

[1] 1986 staffing is a projection based on the staffing standard.

[2] 1987 staffing is tentative.

[3] Staffing standard calls for breakdown only for controllers and developmental pipeline positions, not by FPL and developmentals. The 1986 pipeline figure includes special emphasis.

REVISED STAFFING STANDARD

Mr. Lehman. You are requesting an increase of 325 positions for your centers, which you state is due to a new staffing standard based on workload and the time a controller is available. Would you explain this new standard and indicate how it differs from the standard used in prior years?

Mr. Luffsey. Yes, sir. The new standard is based on traffic flow by sector in 15-minute increments. Allowance is made for the amount of time an aircraft is in a sector, the number of aircraft entering sectors, and the number leaving the sectors. And the work shifts are established to meet the traffic patterns.

Mr. Lehman. Using a typical center, such as Boston or Houston, would you provide for the record a detailed calculation of how this new standard will change the controller staffing at that center?

[The information follows:]

The basic Center Staffing Standard applies to a sector because a sector is the fundamental element of traffic control in centers. The sector is a specified segment of airspace portrayed on a radar display, and a specified number of controllers have the responsibility for controlling air traffic within that sector. Total center airspace is made up of all the sectors within the center. The number of controllers required to man the sector for a particular shift is the essence of a staffing standard. This number is influenced by the workload generated by the numbers of aircraft handled and how busy the controller is as a result of this workload. An air traffic staffing standard is the relationship between the number of aircraft handled, the amount of flight time per aircraft, the numbers of aircraft traversing a sector, and the number of controllers required for this level of activity. Staffing standards are a representative condition made up of average values and do not represent maximum conditions.

The revised Center Staffing Standards were developed for Air Traffic Controller and Air Traffic Assistant positions in the automated domestic enroute centers in 1985.

The development of these standards consisted of the following elements:

1. A methodology to collect on-site time study data;
2. The selection of six different centers for data collection activities. (New York, Chicago, Memphis, Albuquerque, Denver, and Los Angeles.) These facilities included a mix of geography, traffic activity, and altitude structures for sectors within the centers;
3. An analysis of the time study data to determine on-position activity time values and the frequency of work element occurrence.

4. The design, coding and testing of computer programs which would result in an automated staffing standard for future applications.

A brief description of the major elements and computer programs that are required for the center staffing standard is as follows:

Sector flight data is recorded on an Aircraft Management Program (AMP) tape by the center's 9020 computer system. Utilizing each center's 90th percentile busy day data, computer programs extract work count information from the AMP tape for each 15 minutes of activity for each sector. These workload indicators are: numbers of aircraft entering the sector, numbers of aircraft passing through the sector, numbers of aircraft leaving the sector, total number of aircraft minutes within the sector, and the maximum number of aircraft in the sector. These are the major indicators utilized to determine ATC and ATA workloads.

Computer programs then calculate controller and air traffic assistant on position work time (man-minutes). Work time calculations are based on work element time values and frequency of occurrence. Work elements are activities such as looking at a radar display, voice communications, flight strip marking, and display keyboard functions. The computer program then converts the on position work time to head count requirements.

The manpower requirements for each center are summed and crew scheduling algorithms determine the number of personnel needed. The basic algorithm selected for this purpose uses an 8 shift per day configuration. These numbers are then adjusted for position availability factors, such as annual leave, sick leave, training time, and other factors which require a person to not be available to work a control position.

These staffing requirements are then calculated to future years based upon traffic forecasts for a particular year.

The new staffing standard became effective in FY 1986, and were used to derive staffing requirements for FY 1986 and FY 1987. The old staffing standard is not to be used.

[CLERK'S NOTE.—A detailed printout of the calculation for Boston Center was provided to the Committee.]

OPERATIONAL SECTORS

Mr. **LEHMAN**. How many of your requested 325 positions are controllers?

Mr. **LUFFSEY**. They will all be for controllers.

Mr. **LEHMAN**. Last year it was indicated that your center staffing was calculated on the basis of the number of sectors being operated and your budget assumed 10 additional sectors would be added in fiscal year 1986.

How many have you added and how many does your budget assume you will add in fiscal year 1987?

Mr. **LUFFSEY**. In fiscal year 1986 there were 12 sectors added and we expect to add about 10 in 1987.

Mr. **LEHMAN**. It was also indicated that you were operating 624 sectors in your air traffic control centers, which was 97 sectors less than your pre-strike level.

How are you able to control more traffic with about 13 percent fewer sectors? Were there too many sectors prior to the strike?

Mr. **LUFFSEY**. Let me answer that second part first.

Yes, based on today's methodology, there were too many sectors. In fact, there were 721 then. We reduced to 558 sectors following the strike. Based on time-on-position considerations, our people are on a position between five-and-a-half to six hours versus the four hours per day that occurred before the strike. This allows us this kind of rotation pattern.

Due to the increase in traffic, certain requests for additional sectors have been approved and the total amount now is 644 sectors.

CENTER POSITIONS AND EMPLOYMENT

Mr. **Lehman**. Would you update for the record the table on pages 406 and 407 of last year's hearing showing authorized positions and employment for each of your centers, and add three columns for each center showing authorized operational controllers, onboard operational controllers, and onboard full-performance level controllers?

[The information follows:]

Center	Authorized	Current [1]	Operational controllers authorized	Operational controllers on board [1]	FPL's on board [1]
Anchorage, AK	173	145	129	65	50
Kansas City, MO	352	376	285	235	178
Washington, DC	393	312	317	254	220
New York, NY	369	290	293	208	160
Chicago, IL	373	423	294	244	151
Indianapolis, IN	299	303	243	184	119
Minneapolis, MN	294	325	231	164	120
Cleveland, OH	419	450	329	288	196
Boston, MA	247	240	194	176	124
Denver, CO	356	290	288	233	154
Salt Lake City, UT	208	164	164	130	109
Seattle, WA	217	227	164	147	108
Jacksonville, FL	349	332	280	211	194
Miami, FL	241	273	191	165	121
Memphis, TN	320	320	249	193	157
Atlanta, GA	506	428	410	333	250
Albuquerque, NM	307	305	239	191	155
Fort Worth, TX	391	371	312	269	192
Houston, TX	323	346	259	250	177
Honolulu, HI	103	61	77	40	39
Los Angeles, CA	353	298	279	189	149
Oakland, CA	288	274	231	193	114
Guam, M.I.	12	12	12	12	12
San Juan, P.R.	58	42	49	30	23
Total	[2] 6,951	6,607	5,519	4,404	[3] 3,272

[1] On board figures are as of March 31, 1986 and based on PMIS data.
[2] Air Trafffic Controllers (GS-2152 only).
[3] There numbers are included in the operational controllers on board.

Mr. **Lehman**. Would you also update the table on top of page 408 of last year's hearing record showing center personnel by category compared with your standard?

[The information follows:]

The following table illustrates the staffing and standard:

Category	March 31, 1986 actual	Fiscal year—	
		1986 standard	1987 standard
Operational controllers	4,404	5,519	5,741
(FPL controllers)	(3,272)		
Development pipeline	1,681	677	730
Air traffic assistants	803	935	935
Supervisory and Staff	2,203	2,112	1,976
Total	9,091	9,243	9,382

Mr. Lehman. Would you explain your proposed transfer of 25 positions from planning, direction and evaluation for traffic flow management functions?

[The information follows:]

The Central Flow Facility, while located in Washington headquarters, performs as field activity involved in the real-time control of air traffic. Central Flow Control acts as a "super center" coordinating traffic flow nationally, and is therefore more appropriately covered under the Center option.

Since 1981, the Agency has adopted a policy of ground delays versus airborne delays. These ground delay programs are managed from this facility. This has resulted in a downward trend of average daily delays of 1,105 in 1984 to 915 in 1985.

AIRCRAFT OPERATIONS AT TOWERS

Mr. Lehman. You are requesting $482,510,000 and 9,959 positions for your towers.

Last year you projected 62.9 million aircraft operations at your towers for fiscal year 1986. This year you have revised this projection for fiscal year 1986 to 59.8 million aircraft operations.

What accounts for this 5 percent error in your original fiscal year 1986 estimate?

Mr. McDaniel. Really, Mr. Chairman, it is the same factor we talked about earlier, the general aviation activity, which we expected to grow. It did not grow as we had anticipated.

TOWER EMPLOYMENT

Mr. Lehman. Would you indicate for the record the current employment at your towers and the end-of-year levels your budget assumes for fiscal years 1986 and 1987?

[The information follows:]

March 31, 1986 (actual)	9,820
September 30, 1986 (estimated)	9,508
September 30, 1987 (estimated)	9,560

MERIT PAY INCREASES

Mr. Lehman. On page 28, what is the basis of your requested increase of $786,000 for 1,078 merit pay increases?

[The information follows:]

This amount is equivalent to the within grade increases for GS employees which goes into the merit pay pool (for GM employees)

OVERTIME IN TOWERS

Mr. Lehman. You are proposing decreases of $5,720,000 and 216,000 hours for overtime at your towers. This would reduce overtime hours to less than one-third of your fiscal year 1980 level.

How confident are you that you will be able to achieve this reduced overtime level?

Mr. Luffsey. We should be able to do that, Mr. Chairman. The FPL level in towers now exceeds 90 percent of the staffing standard and our operational controllers in towers exceed the staffing standards by over 100 percent.

Mr. Lehman. Would you update for the record the table on page 409 of last year's hearing record showing hours and costs of overtime in your towers for fiscal years 1981 through 1987?

[The information follows:]

Year	Hours	Amount
1981	418,616	$10,249.0
1982	842,590	22,619.2
1983	469,407	13,143.4
1984	383,288	10,066.2
1985	292,909	7,724.8
1986 (est)	293,870	7,838.0
1987 (est)	77,870	2,118.0

STAFFING IMBALANCES

Mr. **Lehman**. You are also proposing a decrease of 145 overhead positions at your towers. Why do you have too many overhead personnel at your towers and what management controls do you have regarding the number of overhead staff at your towers?

Mr. **Luffsey**. Well, as I mentioned, we are continuously evaluating the requirements at the facility and regional level for supervisory management and support staff; it includes reviews of supervisors to staff ratios.

The staffing allowances determine the controller work force level, and with anything in excess of that, it is considered in the overhead staff positions.

END-OF-YEAR TOWER STAFFING

Mr. **Lehman**. Would you provide for the record a breakdown of your end-of-year tower staffing for fiscal years 1983 through 1987 showing the number of onboard full-performance controllers, developmentals, air traffic assistants, supervisory personnel, and overhead staff?

[The information follows:]

Category	1983	1984	1985	[1] 1986	[2] 1987
FPL controllers	4,038	4,667	5,168		
Controllers [3]				5,988	6,188
Developmentals	2,750	2,047	1,467		
Developmental pipeline [3]				692	717
Air traffic assistants	600	798	659	669	669
Supervisory and staff	2,643	2,555	2,844	2,159	1,986
Total	10,031	10,067	10,138	9,508	9,560

[1] 1986 is a projection based on the staffing standard.

[2] 1987 is tentative.

[3] Staffing standard calls for breakdown only for controllers and developmental pipeline positions, not by FPL and developmentals. The 1986 pipeline figure includes special emphasis.

TRACON DECOMMISSIONING

Mr. **Lehman**. On page 16 you show a decrease of one TRACON (terminal radar approach control) in fiscal year 1987. Which facility is that and is there any personnel reduction associated with that decommissioning?

[The information follows:]

We are planning the relocation of McChord RAPCON, located in McChord Air Force Base, Washington, into the Seattle TRACON at Seattle-Tacoma International Airport. This action reduces personnel requirements by 7 positions.

REVISED STAFFING STANDARDS

Mr. **Lehman**. Last year you proposed a decrease of 300 tower positions due to the application of a revised staffing standard that you stated "more accurately matches resources to workload."

This year you are requesting an increase of 200 tower positions due to a revised staffing standard. This trend gives the appearance that you are pulling staffing levels out of the air and revising your standards accordingly.

How much confidence do you have that these constantly changing standards accurately reflect your actual staffing requirements?

Mr. **Luffsey**. Mr. Chairman, we have confidence in the staffing standards and the staffing levels they generate. We are really in this budget hiring for the long pull. We are bringing on 500 controllers who are going to be full-performance level controllers two to three years from now, and that is what this budget contemplates.

Mr. **Lehman**. Last year it was indicated that your fiscal year 1986 standard related tower staffing requirements to the annual operations and you were projecting total aircraft operations at your towers to be 62.9 million in fiscal year 1986, a projected increase of 7.7 percent over the previous year. Yet you proposed a decrease in tower positions for fiscal year 1986.

This year your projected fiscal year 1987 tower activity is 61.8 million aircraft operations, 1.1 million fewer than your original fiscal year 1986 estimate. Nevertheless, you are requesting an increase of 200 tower positions.

Would you explain the logic for these seemingly inconsistent staffing requests?

Mr. **Luffsey**. Yes, sir. The need, as I mentioned just previously, is for full-performance level controllers in our future years. The overall traffic is expected to grow to 66 million operations by 1989. Of course, the airlines are creating new hubs and they just don't follow the national trends.

Mr. **Lehman**. Weren't those factors there last year when you proposed a decrease?

Mr. **Luffsey**. I think the forecasting was for less, but we didn't have the hub arrangement to deal with as frequently as we have noted today.

Mr. **Lehman**. Is that part of the problem?

Mr. **Luffsey**. Yes, sir.

Mr. **Lehman**. For the record, would you provide a detailed breakdown of how your requested 200 position increase was arrived at using the revised standard?

[The information follows:]

We used the FY-1986 standard updated for 1987 forecasted traffic activity (3.3% gain), which resulted in an increase of 197 positions. Four air traffic assistant (ATA) positions for VFR towers with high instrument activity were deferred in FY-1986, so these positions were added to the FY-1987 submission which gave us a total of 201 positions. This was rounded to 200 for our submission.

TOWER PERSONNEL

Mr. **Lehman**. Would you update for the record the table on page 412 of last year's hearing record showing tower personnel by category compared with your standard?

[The information follows:]

The following table illustrates the staffing and standard:

Category	Mar. 31, 1986 actual	Fiscal year— 1986 standard	Fiscal year— 1987 standard
Operational controllers	6,119	5,988	6,188
(FPL controllers)	(5,498)		
Developmental pipeline	374	692	717
Air traffic assistants	647	669	669
Supervisory and staff	2,680	2,159	1,986
Total	9,820	9,508	9,560

TOWER CLOSURES

Mr. **Lehman**. Would you also update for the record the listing on page 411 of last year's hearing record showing the status of those towers temporarily closed after the strike?

[The information follows:]

As of April 22, 18 airport traffic control towers are closed temporarily. They are:

+ Marysville, CA
* Benton Harbor, MI
* Valdosta, GA
* Athens, GA
+ Frenso (Chandler), CA
+ Spartanburg, SC
Plainview, TX
+ Hot Springs, AR
+ Knoxville (Downtown), TN
* Akron (Muni), OH
Ponce, PR
* Mayaguez, PR
+ Hickory, NC
+ West Memphis, AR
* New Bern, NC
+ Pine Bluff, AR
* Marion, IL
* Paducah, KY

As of April 22, 7 airport traffic control towers have received permission to permanently close. They are:

Brunswick, GA
Imperial, CA
Danville, IL
Kansas City (Fairfax), KS (Arpt Closed)
Dade-Collier (Miami), FL
Benton Harbor, MI
Galesburg, IL

Fifty-seven towers were closed and since reopened when resources became available to resume services at these locations.

Martha's Vineyard, MA
(Seasonal ATCT only)
El Monte, CA
Oakland (North), CA
Harlingen, TX
Morristown, NJ
San Jose (Reid-Hillview), CA
North Las Vegas, NV
Olympia, WA
Groton, CT
Danbury, CT
Beverly, MA
Palo Alto, CA
Lancaster, CA
Grand Island, NE
New Bedford, MA
Lawrence, MA
Worcester, MA
Lebanon, NH
Bloomington, IN
St. Petersburg (Whitted), FL
Tuscaloosa, AL
Chico, CA
Greenville, MS
Oxnard, CA
Twin Falls, ID
** Pendleton, OR
** Topeka (Billard), KS
** Hobbs, NM
San Carlos, CA
Salinas, CA
Molokai, HI
Kinston, NC
Santa Maria, CA
Riverside, CA
San Diego (Brown), CA
McAllen, TX
Alexandria, LA
*** Falmouth, MA (Otis AFB - ATCT Only)
** Farmington, NM
Joplin, MO
Salina, KS
Muncie, IN
Ann Arbor, MI
** Owensboro, KY
Santa Fe, NM
Jackson (Hawkins), MS
Shreveport (Downtown), LA
San Antonio (Stinson), TX
** Cleveland (Cuyahoga), OH
** Ardmore, OK
** Lewisburg, WV
** Laredo, TX
** Enid, OK
** N. Myrtle Beach, SC
** Flagstaff, AZ
** Cape Girardeau, MO
** Merced, CA

* Planned FAA Contract Towers

** FAA Contract Tower

*** Military assumed operation of ATCT only. FAA had staffed under a reimbursable agreement. Military now operating under contract to Barton ATC, Inc.

+ Planned FAA Contract Towers pending site surveys

GA INSTRUMENT OPERATIONS

Mr. **Lehman**. Last year it was indicated that the percent of general aviation instrument operations at your towers had decreased from 49.7 percent in 1981 to 42.9 percent in 1984. Has this trend continued in 1985 and 1986?

[The information follows:]

In FY 1985, general aviation instrument operations accounted for 42.4 percent of total instrument operations. In FY 1986, they are expected to account for 42.3 percent of the total.

Mr. **Lehman**. Would you update for the record the information on pages 412 and 413 of last year's hearing record showing general aviation instrument operations at your towers for fiscal years 1981 through 1987?

[The information follows:]

GENERAL AVIATION INSTRUMENT OPERATIONS AT FAA-TOWERED AIRPORTS

[In millions]

	General aviation activity	Total operations	Percent of total
Fiscal year:			
1981	18.5	37.2	49.7
1982	13.9	31.6	44.0
1983	14.8	34.0	43.5
1984	16.0	37.3	42.9
1985	16.4	38.7	42.4
1986 (forecast)	17.2	40.6	42.3
1987 (forecast)	18.1	42.3	42.7

AUTOMATED FSS

Mr. **Lehman**. On page 29 you are requesting 3,855 positions and $171,532,000 for your flight service stations. This represents a reduction of 740 positions from your fiscal year 1986 levels. You state that this reduction is made due to the "consolidation of existing FSSs into automated flight service stations."

However, last year we were advised that "no personnel savings are associated with these consolidations."

Would you explain this inconsistency?

Mr. **Luffsey**. Yes, sir. This is probably one of the most difficult areas I have to explain, but from the viewpoint of productivity gains, we do expect productivity gains assuming we can get back on the planned program track.

We are carefully looking at our existing 1986 plan to determine what kind of stretch-out we are going to have to deal with. If we have to stretch out any of the consolidations we are going to have to revisit the question.

Apparently, if we can get back on track in 1987, we will be able to accommodate these savings.

Mr. **Lehman**. As counsel says, last year you said there was no personnel savings associated with these consolidations and now you apparently have reversed this.

Mr. **Luffsey**. On reviewing it again, we are going to have to deal with some productivity savings through that process.

I think there is another point I should make, that we are noting more and more private service intervention; that is, the private sector is providing some of the same services provided by the flight service specialist.

Mr. **Lehman**. Last year you advised the Senate that you would reduce your flight service station staffing to 3,654 by 1990. With your proposed reduction of 740 positions in fiscal year 1987 you will be within about 200 positions of your estimated 1990 level. It would appear as if this is an accelerated reduction schedule.

How do you reconcile this with the delays in your automation program?

Mr. **Luffsey**. By the end of 1987, we should have commissioned a total of 44 automated flight service stations. The model 1 program will be installed at 37 of those facilities and we will have consolidated a total of 49 flight service stations by the end of 1987.

I am assuming no further stretch-out or monetary impact on the program. If we are on that track, we can do that.

FSS EMPLOYMENT

Mr. **Lehman**. You currently have 4,595 positions assigned to your flight service stations. What is your present employment and what does your budget assume for September 30, 1986, and September 30, 1987?

[The information follows:]

Present and projected employment for flight service stations is as shown below:

March 31, 1986 (actual)	4,451
September 30, 1986 (estimated)	4,365
September 30, 1987 (estimated)	3,662

Mr. **Lehman**. Do you expect to be able to achieve this 740 position reduction by attrition or will reductions-in-force be required?

Mr. **Luffsey**. Well, certainly to the extent possible, we will achieve it by attrition. We don't want to have a RIF. It will be attrition or reassignment to the extent that we possibly can.

Mr. **Lehman**. It will be hard not to move people around.

Mr. **Luffsey**. It sure will.

TEMPORARY EMPLOYEE

Mr. **Lehman**. In fiscal year 1985 you requested 285 "other than full-time permanent" flight service employees to provide a smooth transition to the automated flight service station system.

Last year you stated that although none of these employees had been hired, you expected to commence hiring in the fourth quarter of fiscal year 1985 and all 285 would be needed in 1986 on a full-year basis and throughout the consolidation and transition period of the automated system.

How many of these 285 other than full-time employees are currently onboard?

Mr. **Luffsey**. There are 126 full-time temporary employees.

Mr. **Lehman**. Are you going to hire the rest of them? Are you still looking for the rest?

Mr. **Luffsey**. We have to take a careful look at the program and the transition rate. Apparently in the planning that we had on the non-stretch-out track, we would have needed them and I would hire them in that case.

Mr. **Lehman**. Would you update that?

Mr. **Luffsey**. Yes, sir.

[The information follows:]

The authorization to hire 285 other than full-time permanent employees was given to the regions. Allocations were based on planned consolidations. Due to budget constraints, many of the planned consolidations have been delayed, therefore all of the 285 positions have not yet been filled. There will be a requirement for the remainder of these positions when the planned consolidations take place.

Mr. **Lehman**. We are trying to figure out why you are laying off the full-timers and hiring part-timers?

Mr. **Luffsey**. Of course, the purpose of that was to help us through a transition period of moving people and keeping other facilities open and not having to move people to the wrong place.

Mr. **Lehman**. These part-timers are not permanent in any sense?

Mr. **Luffsey**. No, they are temporary employees.

Mr. **Lehman**. They are a bridge?

Mr. **Luffsey**. Yes, sir.

PRIVATE SECTOR SERVICES

Mr. **Lehman**. Last year you proposed a reduction of 120 flight service station positions based on an increasing capability of the private sector to provide flight services.

To what extent is the private sector capability increasing and to what extent is it being used?

Mr. **Luffsey**. The information provided by the private sector indicates that there are about 13 companies providing weather briefings and flight planning services. The data indicates that they have provided more than 30,000 briefings and about 8,000 flight plan profiles per week.

Mr. **Lehman**. On a percentage basis, how much of this is private sector now?

Mr. **Luffsey**. I would have to do a calculation.

Mr. **Lehman**. Would you provide it for the record?

[The information follows:]

The private sector currently provides approximately 1.3% of all pre-flight services.

FSS INFORMATION DELAYS

Mr. **Lehman**. For the past two years you have stated that you were not meeting your full demand and that pilots were encountering substantial delays in having their calls answered. To what extent has this situation been alleviated?

Mr. **Luffsey**. We are still experiencing some delays. Of course, we are installing the integrated communications switching system. We have some bugs in it and when we work those out, we believe we are going to be able to solve this problem.

There is one other thing that I noted and we are getting feedback to that extent, and that is that where we have installed the equipment our people are able to give a better briefing because they have more information. The problem with the better briefing and more information is, it takes longer; the fact that it takes longer delays somebody getting into the loop. So that is a positive that has a negative effect.

CONTRACT WEATHER PROGRAM

Mr. LEHMAN. Your budget assumes the decommissioning of 40 flight service stations in fiscal year 1987. Will this result in any increased costs for your contract weather program? If not, how is the weather information going to be obtained, and if so, where are these costs reflected in your budget justification?

Mr. LUFFSEY. What I would like to do is research that and provide that for the record. But it is probably going to cost something for the weather service where they are not provided in other ways when we close a flight service station.

[The information follows:]

Yes, increased costs for the contract weather program will be necessary. However, these additional costs are not reflected in our FY 1987 budget submission. We are currently examining a number of funding alternatives.

FSS OVERTIME

Mr. LEHMAN. Last year you projected 178,000 hours of overtime for your flight service stations for fiscal years 1985 and 1986.

What was your actual flight service station overtime in 1985 and what is your current projection for 1986?

[The information follows:]

Overtime hours for Flight Service Stations in FY 85 was 152,988. Projected overtime hours for Flight Service Stations in FY 86 is approximately 178,000.

Mr. LEHMAN. Would you update for the record the table on flight service station overtime costs and hours for fiscal years 1981 through 1987?

[The information follows:]

[Dollars in thousands]

Year	Hours	Amount
1981 [1]	([2])	
1982	171,460	$3,105.9
1983	159,512	3,030.7
1984	162,428	3,124.7
1985	152,988	3,117.8
1986 estimate	178,094	3,751.6
1987 estimate	178,094	3,751.6

[1] Note: Table on flight service station overtime did not include FY 81.

[2] Not available.

Mr. LEHMAN. Would you also update for the record the information on flight assists that was included on page 417 of last year's hearing record?

[The information follows:]

The following are flight assist statistics for Calendar Year 1985:

Total number of flight assists: 1181

Total number of people on board the aircraft: 2093

Total number of flight assists by facility type:

	Number	Percent of total
Flight Service Station	436	37
Terminals	529	45
Centers	216	18
Causes: [1]		
Lost	602	47
Equipment Failure	277	21
Weather Related	208	16
Low Fuel	116	9
Gear Up	93	7
Methods of Assistance: [1]		
Radar	631	45
DF	308	22
VOR	220	16
Geographical Features	143	10
Other Aircraft	90	7

[1] More than one is possible per flight assist.

PLANNING, DIRECTION AND EVALUATION

Mr. LEHMAN. You are requesting 972 positions and $68,478,000 for planning, direction and evaluation. Last year you indicated that your other objects costs for this subactivity would be $15,784,000 in fiscal year 1986.

However, despite the fact that your total appropriation was reduced because of Gramm-Rudman-Hollings, you show fiscal year 1986 obligations for other objects of $21,735,000, an increase of nearly $6 million over your original request.

What was the reason for this increase and what other activities were reduced to make up for this increase?

Mr. LUFFSEY. That one—I hate to do this twice in a row, I would like to research that and provide it for the record, sir.

[The information follows:]

In FY 1986, a reduction of $10,715,000 was made to "reduce cost of administrative services". This reduction, however, has not occurred due primarily to uncontrollable items of costs such as the charting program, contract towers and contract weather observations. Savings have been incurred, however they cannot be specifically related to any one activity since there is an overall cut-back in other areas such as printing, travel, permanent change of station moves, purchase of supplies and equipment.

OTHER OBJECTS

Mr. LEHMAN. Would you provide for the record a breakdown of your $22,235,000 request for other objects?

[The information follows:]

The $22,235,000 for other objects is broken down into the following categories:

Object class	Description	Amount
2100	Travel	$2,022
2200	Transportation of things	914
2300	Rents, communications, and utilities	214
2400	Printing	414
2500	Other services	16,188
2600	Supplies	1,306
3100	Equipment	1,177

CHARTING PROGRAM

Mr. **Lehman**. Last year you requested a $2.4 million increase to reconfigure your aeronautical charts because of your national airspace review enhancements.

Is this reconfiguration effort expected to continue throughout fiscal year 1987? If so, when do you expect it will be completed?

[The information follows:]

The reconfiguration effort is expected to continue through 1990 in the following priorities:

1. Enroute High Altitude Planning Chart (1 chart)
2. Enroute High Altitude Chart Series (6 charts)
3. Enroute Low Altitude Chart Series (28 charts)
4. U.S. Sectional Charts (37 charts)
5. Terminal Area Charts (22 charts)
6. Instrument Approach Procedure Charts (5,300 + charts)

This schedule assumes:

1. An expansion of the National Ocean Service (NOS) production capability via additional manpower or commercial contract.
2. Consistent funding.
3. No additional work of higher priorities.

Mr. **Lehman**. Last year it was indicated that for the total aeronautical charting program NOAA contributes 29 percent, FAA contributes 41 percent, and 30 percent is recovered from the sale of charts to DOD and the public.

How were these costs shares determined?

[The information follows:]

The percentages were computed from the dollar amounts contained in the NOAA funding plan for aeronautical charts. The FAA and NOAA amounts were based upon actual allocations and the chart sales figures are estimates. The percentages are subject to change due to changes in operational requirements and they are computed on the basis of total dollars expended/projected for aeronautical charts and related products. The following is an updated array of these percentages:

[In percent]

	Fiscal year—				
	1985 final	1986 estimated	1987 projected	1988 projected	1989 projected
FAA	43	47	47	47	47
NOAA	30	11	8	4	0
DOD	6	22	22	22	22
Public sales	21	20	23	27	31

In FY 1986 OMB, NOAA, DOD, and DOT agreed that FAA and DOD would assume the funding responsibility for chart maintenance costs (the cylical revision of published charts) previously funded by NOAA. These costs were allocated based upon chart use by DOD and FAA. The NOAA percentage was reduced from 30% to 11%.

The Reconciliation Act passed March 20, 1986, increased the price of charts sold to the public over a three year period by including the cost of compilation and data base maintenance. This action will increase public sales and reduce NOAA percentages as indicated in the FY 87-89 projections.

TRAFFIC MANAGEMENT SYSTEM

Mr. **Lehman**. Last year when we discussed your requested $4 million increase for a new traffic management system, you referred to an automated runway configuration management program, a method for predicting aviation activity as it relates to system capacities and greater interface capability. What is the status of this new traffic management system?

Mr. **Luffsey.** I am going to ask that the director of Air Traffic Operations Service, Mr. Jack Ryan, answer that.

Mr. **Ryan.** The R&D effort for the runway configuration management system is approaching the evaluation stage this summertime. The system testbed is at Chicago-O'Hare and the RCMS will use current demand data from the central flow control facility in Washington to forecast on a real-time basis the arrival demand and departure demand for O'Hare.

This will also take into consideration weather and visibility data which will provide supervisors and controllers information on when they should change runways for a more efficient operation.

Mr. **Lehman.** What types of management improvements will permit you to reduce your full-time equivalent employment by 124 staff years?

Mr. **Luffsey.** Sir, that will be the result of what is now an ongoing A-76 study and it relates to the automation support function at technical center.

Mr. **Lehman.** Since you are reducing your full-time equivalent ceiling by 155 FTEs, why are you only reducing your number of positions by 31?

[The information follows:]

The positions associated with the FTE reduction of 124 will be made in FY 1988 when the function is actually contracted out. The 31 position reduction has associated FTE's since this represents a transfer of functions from one sub-activity or activity to another.

TRAVEL

Mr. **Lehman.** On page 32, why do you feel you need a $500,000 increase for travel to develop your operational needs?

[The information follows:]

The $500,000 increase is needed since the implementation of flow control and traffic management units in centers and terminals requires significant travel to assure coordination, develop uniform procedures, and adaptation to situations caused by changing airline plans for hubs, routes, and fleet mix.

COMMUNICATIONS AND FLIGHT DATA CENTER

Mr. **Lehman.** Would you update for the record the table on page 422 of last year's hearing record showing the personnel and costs for your national communications center and the national flight data center?

[The information follows:]

Fiscal year	Cost	Personnel
National Communications Center:		
1983	$2,296,753	88
1984	2,466,400	88
1985	2,405,794	87
1986 (estimated)	2,387,800	87
1987 (estimated)	2,391,800	87
National Flight Data Center:		
1983	2,331,498	40

Fiscal year	Cost	Personnel
1984	2,376,300	45
1985	2,447,500	44
1986 (estimated)	2,497,000	44
1987 (estimated)	2,547,000	44

CENTRAL PROGRAMMING GROUP

Mr. LEHMAN. Would you also indicate for the record how much you are requesting for your centralized programming group and explain any increases proposed over the current year's funding?

[The information follows:]

The request in FY 1987 for the central programming group located in Atlantic City at the FAA Technical Center is $8,781,000. This is a decrease from FY 1986.

INSTALLATION AND MATERIEL SERVICES

Mr. LEHMAN. Mr. Coughlin, do you want to ask some questions?

Mr. COUGHLIN. Yes, Mr. Chairman, thank you. This is what is called a marathon.

Turn to installation and materiel services. You indicate your fiscal year 1986 program level will be $183,957,000, which is $24,483,000 below your fiscal year 1986 budget request.

What reductions did you or will you make to achieve this $24,483,000 savings, particularly since you have 63 more positions than requested last year?

Mr. GILMORE. I will respond to that, Mr. Chairman.

We have deferred repair and maintenance in some of our buildings, some communications reductions, contract services reductions, and some supply and materiel reductions. The 63 positions did in fact increase, but our employment is down.

Mr. COUGHLIN. Would you provide a detailed breakdown of this $24,483,000 for the record?

[The information follows:]

A breakdown of the FY 1986 change is as follows:

Item	*Cost change*
PC&B	$−441
Travel of Persons	+249
Transportation of Things	−344
Rent, Communications & Utilities	−6,319
Printing and Reproduction	2,303
Other Services	−12,991
Supplies and Materials	−6,428
Equipment	−507
Claims	−5
Total	−24,483

INVENTORY REPLENISHMENT

Mr. COUGHLIN. Would you update for the record the table on inventory replenishment that was included on page 423 of last year's hearing record?

[The information follows:]

Obligations for inventory replenishment at the FAA Depot for fiscal year 1982 through fiscal year 1986 were as follows:

1982 (actual)	$32,203,000
1983 (actual)	31,823,700
1984 (actual)	25,516,100
1985 (actual)	25,822,456
1986 (estimate)	22,960,100

In fiscal year 1987, $23,166,200 of the $47,197,000 request is to replenish inventories at the Depot. Inventory replenishment excludes: (1) Direct Shipment (GSA/DOD/Commercial) $12,424,800; (2) Other Contractual Services $9,992,000; and (3) Transportation of Materiel $1,614,000.

AUTOMATED MATERIEL HANDLING SYSTEM

Mr. **Coughlin**. Last year it was indicated that the contract for your automated materiel handling system was scheduled to be completed in December 1986 with savings starting in fiscal year 1987. What is the status of this system and what savings do you expect to realize from it in fiscal year 1987? If there are savings, where are they reflected in your budget justifications?

Mr. **Gilmore**. I am happy to report that we are on schedule at about 50 percent completion and on cost. We still expect the system to be commissioned in December of this year.

The expected savings are $1.7 million in fiscal year 1987. Those savings were basically taken out of FY 1987 in the items mentioned earlier.

SUPPLY SUPPORT AND COMMERCIAL REPAIR COSTS

Mr. **Coughlin**. Last year it was indicated that your fiscal year 1985 base for supply support and commercial repair costs was $52,833,000. This year you indicate that your fiscal year 1986 base is $44,591,000.

How were you able to reduce your supply support and commercial repair base by more than $8 million, particularly since you indicated last year that you expected your overall supply demands to remain fairly stable?

Mr. **Gilmore**. Those demands are continuing to remain stable now, but should start to decline in FY 1987. What we are doing is walking a line between new systems being commissioned, which are more reliable and require less parts, and the old systems which are being removed. We can canabalize decommissioned old systems and use repair parts from those systems to keep the remaining few on the air.

So in effect the F&E program helps us with the new system supply support and the old systems support themselves. We think we can do it with reduced resources in FY 1987.

SUPPLY SUPPORT COSTS

Mr. **Coughlin**. How much of your requested $2,243,000 fiscal year 1987 increase for supply support costs is for inflation? If any, what rate of inflation does your budget assume?

[The information follows:]

The amount of inflation included in the fiscal year 1987 increase for supply support costs is $100,000. The rate of inflation for the supply support portion of our budget is 1.8%.

CONTRACTURAL SERVICES

Mr. **Coughlin**. Would you update for the record the two tables on contractual service costs and units repaired that were included on page 424 of last year's hearing record?

[The information follows:]

COMPARATIVE DATA ON THE CONTRACTUAL SERVICE PROGRAM

Fiscal year	Exchange and repair program	Total
1984 (actual)	$9,528,000	$9,528,000
1985 (actual)	10,061,751	10,061,751
1986 (estimate)	9,629,000	9,629,000
1987 (estimate)	9,992,000	9,992,000

COMPARATIVE DATA ON THE NUMBER OF EXCHANGE AND REPAIR UNITS REPAIRED

Fiscal year	Commercial	In-house	Total
1984 (actual)	13,330	10,604	23,934
1985 (actual)	10,743	9,642	20,385
1986 (estimate)	11,197	10,604	21,801
1987 (estimate)	10,733	10,604	21,337

Mr. **Coughlin**. On page 37, what is the status of the A-76 studies that are the basis for your reductions of 103 FTEs and $3,647,000?

Mr. **Goldman**. Those studies are all under way. They relate to motor pools at the Aeronautical Center and in the regions and also the depot shops located at the Aeronautical Center. They will all be completed in the 1987 timeframe.

DIAGNOSTIC TEST REPAIR PROGRAM

Mr. **Coughlin**. Last year it was indicated that your 55 diagnostic test repair software packages would result in a 50 percent increase in your productivity.

Have you been able to achieve an increase in productivity? If so, to what extent is it reflected in your budget?

[The information follows:]

We have not realized the productivity increases that we had anticipated because only 12 of the 55 programs have been procured, pending a recently initiated FAA evaluation of future test equipment requirements. This was necessary because the current test equipment has a limited capability to conduct the required test. Continued use of the current test equipment would require extensive modifications to test new, incoming NAS equipment. Testing and evaluation of these 12 is currently underway and we expect to finish by the end of this year. Procurement of the remaining 43 has been deferred until the evaluation is complete.

ADMINISTRATIVE TELECOMMUNICATIONS

Mr. **Coughlin**. On page 38, why do you need nearly a 30 percent increase for administrative telecommunications, particularly in view of Gramm-Rudman-Hollings?

Mr. **Gilmore**. The largest part of that increase is restoration of the Gramm-Rudman cut. We are also taking on 51 new automated data programs. This activity provides the hook-up and pays the tariff costs to cover those new automated systems.

ADMINISTRATIVE DATA COMMUNICATIONS NETWORK

Mr. **Coughlin**. Last year it was stated that your fiscal year 1986 administrative data communications network (ADCN) costs were "one-time costs." However, this year you indicate that you are not only continuing your fiscal year 1986 ADCN costs, but are requesting an additional $1,062,000. Would you explain this?

Mr. **Gilmore**. We had a delay in the contract award, and as I mentioned earlier, the 1986 costs were reduced from last year's budget request so that now the 1987 request reflects some of the one-time costs I mentioned last year.

Mr. **Coughlin**. What is the status of your ADCN and is your estimated $5 million per year savings by 1990 still valid?

Mr. **Gilmore**. We are in a hold on the award of that contract because of a protest. Our savings are still valid but sliding on a day by day with the protest delay.

We expect that within the next three months we will know whether or not we will proceed. If we stay on course, we should meet the 1990 estimated savings.

FTS COSTS

Mr. **Coughlin**. Would you indicate for the record your total estimated fiscal year 1987 costs for FTS?

[The information follows:]

For fiscal year 1987, the total estimated costs for FTS is $11,512,000.

RENTAL PAYMENTS TO GSA

Mr. **Coughlin**. On page 40 you are requesting an increase of $3,231,000, about 12 percent, for rental payments to GSA. This appears to be more than normal inflation.

What reason did GSA provide for these rate increases?

[The information follows:]

GSA did not provide us with specific reasons for the increase in effect for FY 1987. However, we understand that GSA's goal is to bring rental rates for space in line with rates being charged by the private sector.

PRINTING COSTS

Mr. **Coughlin**. Also on page 40, why can't you hold your printing costs to the fiscal year 1986 level?

[The information follows:]

In recent years, considerable attention has been directed at the cost of printing with the result that fiscal year 1986 was held to an absolute minimum. We are trying to hold fiscal year 1987 to this level, however, some printing cost increase will occur due to printing volume increases in support of FAA's "Back-to-Basics" Program and the added emphasis on security and safety. Also, some increase in the basic cost of printing is expected.

Mr. **Coughlin**. What actions are you taking to attempt to control your printing and reproduction costs?

[The information follows:]

Actions to control printing and reproduction costs include: eliminating the use of costly paper, eliminating the use of multi-colors, reducing the quantities in each printing job, scrutinizing all printing requests for essentiality and requiring top management approval of exceptions to internal printing constraints.

RENT AND UTILITY TRANSFER

Mr. **Coughlin**. Would you elaborate for the record on the transfer of $7,616,000 in rent and utilities to your facilities and equipment appropriation?

[The information follows:]

The transfer of $7,616,000 from the Operations appropriation to the Facilities & Equipment appropriation was made to bring the funding of these items in line with the Technical Center lease which is funded from the Facilities and Equipment Appropriation. The majority of these dollars support the lease and utilities for the Aeronautical Center.

HEADQUARTERS MOTOR FLEET

Mr. **Coughlin**. What is the current size and annual operating costs of your headquarter's motor vehicle fleet?

[The information follows:]

The motor fleet which supports region, center, Washington Headquarter's and Metropolitan Washington Airports' offices consists of 134 vehicles at an annual operating cost of $402,000.

SYSTEMS MAINTENANCE

Mr. **Coughlin**. Turn to systems maintenance. On page 43, you indicate that your systems maintenance costs for fiscal year 1986 will be approximately $45 million less than your fiscal year 1985 level. It is also about $74 million below your fiscal year 1986 budget request. In which areas were these reductions made?

Mr. **Pozesky**. The major source of this reduction, Mr. Coughlin, is the decrease in onboard employment. As we said earlier, our retirements are running ahead of our schedule at the moment.

FIELD MAINTENANCE POSITIONS

Mr. **Coughlin**. Last year it was indicated that your fiscal year 1986 budget assumed that field maintenance employment would be 8,960 personnel at the start of the year and 8,816 personnel at the end of the fiscal year.

However, your budget shows an FTE ceiling for fiscal year 1986 of 8,327. What led to this savings of approximately 500 FTEs this year?

Mr. **Pozesky**. Two or three major areas: first, we had a detailed review of the level of maintenance we needed in all of our facilities; secondly, we were able to obtain economies by taking advantage of improved reliability of the new equipments we are fielding; and thirdly, we are making broader use of our remote maintenance monitoring capability throughout the system.

Mr. **Coughlin**. On page 45 you state that your current plans call for a net decrease of 1,159 field maintenance positions through fiscal year 1991. Is this decrease proposed from your fiscal year 1986 or 1987 projected position level?

Mr. **Pozesky**. The base will be fiscal 1986.

Mr. **Coughlin**. Is any of your estimated field maintenance productivity savings of 2,136 positions related to contracting out?

[The information follows:]

None of this savings is contracting out related.

FIELD MAINTENANCE EMPLOYMENT

Mr. **Coughlin**. Would you indicate for the record your current employment and the end-of-year employment levels your budget assumes for field maintenance for fiscal years 1986 and 1987?

[The information follows:]

The employment for the field maintenance activity as of March 31, 1986, was 8,393.

The end-of-year employment level our budget assumes for the field maintenance activity for FY 1986 is 8,534 and for FY 1987 is 8,472.

FIELD MAINTENANCE OTHER OBJECTS

Mr. **Coughlin**. Would you provide for the record a breakdown of your field maintenance other objects costs for fiscal years 1986 and 1987, including a brief explanation of any significant changes?

[The information follows:]

The following represents the breakdown of other object costs for field maintenance:

[In thousands]

	Fiscal year—	
	1986	1987
Travel	$10,485.3	$10,563.5
Transportation	8,694.7	7,849.3
Rent, communications & utilities (RC&U)	68,062.3	72,639.5
Other services	17,946.1	21,509.7
Supplies	8,343.9	8,317.4
Equipment	2,834.5	419.2
Lands and structures	275.0	255.0
Insurance	90.2	92.4
Total	116,732.0	121,646.0

Increases in RC&U for FY 1987 (of $4,588.8) are costs associated with 121 new facility and equipment commissionings and costs of continuing essential services existing at the end of FY 1986 into FY 1987.

Reductions in equipment program are partly related to increased contracting for special maintenance projects thus reducing in-house resources e.g., equipment requirements and the reduction of operational funded test equipment requirements.

REDUCTION THROUGH ATTRITION

Mr. **Coughlin**. Do you expect to be able to achieve your fiscal year 1987 reduction of field maintenance staff by attrition?

Mr. **Pozesky**. Yes, sir, we expect to achieve the reduction by attrition.

Mr. **Coughlin**. Would you update for the record the information on page 430 of last year's hearing record showing budget estimates and obligations for special maintenance programs?

[The information follows:]

BUDGET ESTIMATES AND OBLIGATIONS FOR SPECIAL MAINTENANCE PROGRAMS

	Estimated	Obligated
1981 (Actual)	$3,628,000	$4,026,700
1982(Actual)	3,628,000	4,789,945
1983 (Actual)	4,431,000	8,070,600
1984 (Actual)	4,875,300	7,169,549
1985 (Actual)	6,080,000	6,004,025
1986 (Estimated)	2,000,000	
1987 (Estimated)	6,182,000	

ENGINEERING STAFF

Mr. COUGHLIN. On page 51, you are requesting $50,737,000 and 714 positions for engineering staff at your Washington and regional headquarters and your aeronautical and technical centers. How do you determine your personnel requirements for this activity?

Mr. POZESKY. It is based on experience and general management assessments.

Mr. COUGHLIN. With a large reduction in field maintenance staff, why aren't there proportionate reductions in your headquarter's engineering staff?

Mr. POZESKY. One of the ways we are taking these reductions is through consolidation of many of the activities back into the headquarter's function, and there is a fairly high workload as we move into the NAS system, and particularly in engineering. So we need to retain a fairly constant level of headquarters engineering.

CHANGE-OF-STATION MOVES

Mr. COUGHLIN. On page 52, why are you requesting an increase of $156,000 for change-of-station moves?

[The information follows:]

This activity normally varies from year-to-year and in this case the $156,000 increase only represents approximately 3 to 4 more "permanent change of stations" (PCS) moves. To some extent, the increase also represents the trend of regional and headquarters engineering support groups to recruit technical people from the FAA field offices rather than outside the FAA.

PLANNING, DIRECTION AND EVALUATION

Mr. COUGHLIN. Last year it was estimated that your fiscal year 1986 other objects costs for planning, direction and evaluation would be $9 million.

You are now projecting these costs to be $12,564,000 an increase of nearly 40 percent from your original fiscal year 1986 budget. What is the reason for this change?

[The information follows:]

The reasons for this increase are essentially increased investments in contract support for engineering and increased engineering and analysis services for the leased telecommunications program area in an effort to constrain costs in that area on a long term basis.

CONTRACT MAINTENANCE PILOT TEST

Mr. **Coughlin**. You are requesting $10 million for a pilot test of contractor maintenance at low activity airports having VFR towers and at selected flight service stations. Would you elaborate on how you plan to conduct this test?

For example, in which region or regions will you conduct the test, how will the contractor be selected and how will his performance be monitored?

Mr. **Pozesky**. The regions are Eastern, Southern and Great Lakes. We will go about this through a competitive procurement process.

We will issue a work statement indentifying the work to be performed and the level of performance required.

We will put in place a monitoring process to compare contractor performance against our current internal FAA performance. We will monitor the contractor's performance and make a cost benefit judgment as we go.

Mr. **Coughlin**. Your request of $10 million for this test program is probably equivalent to 220 to 240 staff years. Do you intend to make any maintenance staff reductions during this test period? If so, how many?

Mr. **Pozesky**. We are not going to make an a priori commitment directly because of this project.

We will, as explained earlier, be on a track to reduce our overall maintenance staff with the NAS plan. When we see how the pilot program works, we may decide to take a further economy in this area, but not on an a priori basis.

LEASED TELECOMMUNICATION SERVICES

Mr. **Coughlin**. You are requesting $176,827,000 for leased telecommunications services. Last year you estimated your fiscal year 1985 leased telecommunications obligations to be $166 million.

What were your actual fiscal year 1985 obligations?

[The information follows:]

The actual obligations for leased telecommunications services in FY 1985 were $168,505 thousand.

The current obligation for leased telecommunications is $106,978,342 through March 31. Our projected estimate for year-end FY 1986 is $202,197,118. This includes $190.5 million in operations funding and $11.7 million funding in F&E.

Mr. **Coughlin**. You also projected last year that your fiscal year 1987 leased telecommunications services obligations would be nearly $200 million. However, your actual 1987 budget request is approximately 11 percent below the level that you were projecting a year ago.

Is this a result of more competition in the telecommunications field or technological advancements?

Mr. **Pozesky**. It is the result of our internal adjustments. In other words, neither of those two causes was the direct result.

We have gone into a program of very, very aggressive cost control in these communications. Our F&E request has historically contained items to buy out certain leases so we can eliminate lease costs such as the ICSS system, multiplexing, and some of our radio and radar microwave links. That is one way we achieve some of this economy.

IMPACT OF BELL SYSTEM DIVESTITURE

Mr. COUGHLIN. Last year it was indicated that your costs had not increased as much as expected because of the Bell System divestiture.

What was the fiscal year 1985 impact of the Bell System divestiture and what are you anticipating for fiscal year 1986 and subsequent years?

Mr. POZESKY. Yes, sir, I think we are going to see an increase because of that problem beginning in FY 1986. Our increase in 1985 was 12 percent; our increase in 1986 is 24 percent; we are projecting 18, 10 and 5 percent increases respectively for fiscal years 1987, 88 and 1989.

Mr. COUGHLIN. Last year you stated this was an area of great concern to you. You mentioned deteriorated service and escalated costs. To what extent has this situation changed during the past year?

Mr. POZESKY. We have improved our cost containment and we have improved the service, but we still have to watch costs closely. Our service problems have been erratic. Most of the service is okay but, when problems arise, we can run into significant coordination problems in getting them resolved.

LEASED TELECOMMUNICATIONS COST INCREASE

Mr. COUGHLIN. Would you provide for the record an estimate of the cost increase for leased telecommunications services over the next five years?

[The information follows:]

The projected expenditures of our current year leased communications program has caused us to reassess this program. Internal and external pressures such as NAS Plan program requirements and unanticipated tariff and rate increases are accelerating our costs to undesirable levels. We are currently working with the Air Traffic Service on an aggressive program to reduce the embedded base in order to live within our budgeted program. The degree to which we are successful in achieving this goal will greatly impact our out-year projections. An analysis of the out-years is being prepared now, with the review to be completed and future year budget projections coordinated with OST within the next 90 days.

Mr. COUGHLIN. On page 56, what services are you deferring in fiscal year 1986 because of Gramm-Rudman-Hollings?

[The information follows:]

Up to April, we only approved telecommunications service requests (TSR) for items that were: safety or capacity critical, resulted in net cost reduction, and Automated Flight Service Station implementation.

As of April, we now only intend to approve TSR's for items that are safety or capacity critical, or result in net cost reduction.

Mr. COUGHLIN. Would you reconcile for the record your requested increase of $12,693,000 for annualization costs with the information provided on page 435 of last year's hearing record?

[The information follows:]

The $3,960,000 increase in annualization is caused by additional requirements (e.g., tariff/fee increases, system expansion, airspace tansfer, etc.) effective in FY

1986 which were unknown when the FY 1986 congressional submission was prepared in FY 1985.

Mr. COUGHLIN. What rate of inflation and tariff increases are assumed for your increases for items numbered 3 and 4 on page 57?

[The information follows:]

An inflation rate of 4.2 percent was utilized and tariff increases (by AT&T) were estimated to be $3.9 million.

RML REPLACEMENT PROGRAM

Mr. COUGHLIN. Last year you estimated a fiscal year 1986 savings of $11,295,000 as a result of your radar microwave link (RML) replacement program, multiplexing networking and leased telecommunications management system.

What is your current estimate of fiscal year 1986 and fiscal year 1987 savings from each of these programs?

[The information follows:]

	Millions
Current estimate for Fiscal Year 1986:	
RML	0
Multiplexing network	$5.2
Telecommunications management	6.0
Fiscal Year 1987 estimates:	
RML	2.0
Multiplexing network	2.5
Telecommunications management	10.0

LEASED SERVICES

Mr. COUGHLIN. Would you update for the record the table on leased services that was included on page 654 of your fiscal year 1985 hearing record?

[The information follows:]

[In fiscal years]

Major category	Obligations 1983	Obligations 1984	Obligations 1985	Budget estimate 1986
Funds transferred to DECCO:				
Interphone service	$68,312	$96,320	$112,937	$107,257
Air navigation facility control circuits	6,445	5,892	6,509	6,181
Digital data service (teletypewriters)	20,622	247	3,667	3,483
Remote control air/ground (RCAG)	12,889	14,016	16,403	15,578
Radar remoting	7,733	8,369	8,329	7,910
Facsimile service	3,867	462	535	508
Remote tower, FSS radio circuits	9,022	7,327	7,862	7,467
Contracts:				
Aeronautical Radio, Inc. (ARINC)	4,785	6,437	7,371	9,500
Other contracts	4,260	8,794	4,992	8,016
Total	137,935	147,864	168,605	165,900

INTERPHONE SERVICES

Mr. COUGHLIN. You are requesting an increase of $7,572,000 for interphone services. Last year when we discussed the fact that these costs had nearly tripled since 1980, you stated that there were further increases still ahead of you in this area.

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What is your current estimate of cost increases for interphone services?

Mr. Pozesky. We are estimating about $16 million increase over the next five years primarily in the RCL and tail circuit area, and an additional $4.5 million increase over the same period of time associated with the flight service station modernization effort.

FY 1987 AUTOMATED FSS

Mr. Coughlin. On page 60, how many automated flight service stations does your budget assume will be in operation in fiscal year 1987?

[The information follows:]

45 are projected to be in operation by the end of FY 1987 and 15 of those would represent FY 1987 commissionings.

RCL NETWORK

Mr. Coughlin. On page 61, would you elaborate on your requested $6.9 million increase for your RCL network and indicate what future costs will be required for this network?

[The information follows:]

The $6.9 million increase is for 80 cable installations and 251 tail circuit configurations to connect FAA facilities to the RCL network.

Future costs, as the RCL network is completed, are estimated to total $16.0M over the next 5 years.

FLIGHT DATA INPUT/OUTPUT

Mr. Coughlin. You are requesting an increase of $550,000 for your FDIO (flight data input/output) project. Last year it was indicated that your estimated fiscal year 1985 savings of $2.4 million as a result of this project did not occur. You did, however, estimate fiscal year 1986 savings of $2.5 million.

To what extent did these savings occur and what fiscal year 1987 savings do you anticipate as a result of your FDIO project?

Mr. Pozesky. Mr. Coughlin, unfortunately we have had a delay in 1986. We are now accepting equipment for delivery. Problems have been cured, and we will begin to realize savings in the remainder of the fiscal year and throughout 1987.

Mr. Coughlin. Could you put the figures in the record, please?

Mr. Pozesky. Yes, sir.

[The information follows:]

The projected savings for FY 1987 is $30,000 as three sites become operational on FDIO at the end of the fiscal year. Savings for FY 1988 will be approximately $1.4 million as the remaining FDIO facilities become operational during the year. FY 1989 will show the full $2.4 million savings.

IMPLEMENTATION SCHEDULE AND STATUS

Mr. Coughlin. Would you indicate for the record the status and scheduled implementation of your NEXRAD, DEMARCS, AWIS, and AUTODIN equipment?

[The information follows:]

AUTODIN

All equipment has been delivered.

First site commissioned August 1985.

An average of 3 AUTODIN systems per month will be commissioned with last system commissioned in March 1987.

DEMARCS (FOR ARTCC'S)

Contract presently being negotiated.
First installation September 1986.
Last installation August 1987.

AWIS

Solicitation for bid will be advertised by May 7.
Contract award estimated 13-20 weeks after solicitation.
Delivery will begin 9 months after contract award.

NEXRAD

Prototype NEXRAD Systems currently being developed by two contractors—Sperry Rand and Raytheon.

Contract will be awarded in January 1987 for 10 limited production systems to one of the two contractors.

Full production option exercised January 1988 with first delivery scheduled for January 1989.

LEASED TELECOMMUNICATIONS NONRECURRING COSTS

Mr. **Coughlin**. Would you provide for the record a table for fiscal year 1987 similar to the one on page 435 of last year's hearing record indicating which of the items requested under leased telecommunications services are nonrecurring costs?

[The information follows:]

TOTAL ANNUAL COSTS FOR SERVICES PLANNED, FISCAL YEAR 1987

	New services part year 1987, including non-recurring	Non-recurring cost component	Balance of year cost new services	Annual cost of 1987 request
Funds transferred to DECCO:				
Interphone service	7,572,000	$2,701,000	4,871,000	$9,742,000
Air navigation facility control circuits	564,000	202,000	362,000	724,000
Digital data service (teletypewriters)	1,050,000	375,000	675,000	1,350,000
Remote center air/ground (RCAG)	82,000	30,000	52,000	104,000
Radar remoting	5,000	2,000	3,000	6,000
Facsimile service	3,073,000	1,094,000	1,979,000	3,958,000
Remote tower, FSS radio circuits	413,000	147,000	266,000	532,000
Total	12,759,000	4,551,000	8,208,000	16,416,000

AVIATION STANDARDS

Mr. **Coughlin**. Turn to aviation standards. We have already discussed some of your aviation standards activities.

What do you consider to be your most significant regulatory action during the past year?

Mr. **Broderick**. Our continuing performance on cabin safety regulations, getting on with what we promised to do on time is our most significant accomplishment.

AIRCRAFT CERTIFICATION ACTIVITIES

Mr. COUGHLIN. You are requesting 775 positions and $37,839,000 for your aircraft certification activities. On page 72, you indicate significantly less workload in fiscal years 1986 and 1987 in five of your six performance indicators under this activity.

What is the reason for this decreased workload and to what extent has this affected your aircraft certification staffing requirements?

Mr. BRODERICK. Mr. Coughlin, I must admit that is a data collection error. I don't have the details, but I would like to supply a table for the record.

There is no significant change in the workload.

[The information follows:]

A review of the data on page 72 indicates that the workload and performance indicator numbers quoted for fiscal year 1985 are in error. They should be as follows:

Type certificate/amendments	88
Supplemental type certificate	1242
Technical standard order authorizations	516
Airworthiness directives	300
Production certificates	2
Parts manufacturing authorizations	600

These revised actual numbers for fiscal year 1985 result in an increase in workload for fiscal years 1986 and 1987 which has been accounted for in our request for number of positions and budget dollars.

AIRCRAFT CERTIFICATION PRODUCTION CERTIFICATES

Mr. COUGHLIN. You show a particularly large drop from the fiscal year 1985 level in the number of production certificates. About what percentage of your overall workload under aircraft certification is related to production certificates?

Mr. BRODERICK. That again is an error in reporting, and we will correct that for the record.

[The information follows:]

Approximately 17% of the workload under aircraft certification is related to production certificates and associated manufacturing inspection activity (e.g., airworthiness certification, production surveillance, enforcement). The fiscal year 1985 number for production certificates was in error. The number should have been 2. With this change, FY-1986 and FY-1987 now show an increase.

AIRCRAFT CERTIFICATION

Mr. COUGHLIN. Would you update for the record the table on aircraft certifications that was included on page 436 of last year's hearing record, including an identification of those certifications that were completed during the past year?

[The information follows:]

AIRCRAFT CERTIFICATION PROGRAMS

Model	Type aircraft	Status percent completed as of April 1986
ATR	Transport	100
British Aerospace (BAE) 125/800	do	100
Boeing 737-300	do	100
Boeing 767-200ER	do	100

AIRCRAFT CERTIFICATION PROGRAMS—Continued

Model	Type aircraft	Status percent completed as of April 1986
Boeing 767-300	do	75
CASA ON 235	do	85
DC-9 Super 83	do	100
De Havilland DHC-8	do	100
Embraer EMB-120	do	100
Embraer EMB-123	do	Inactive
Falcon 900	do	100
Israel 1125	do	100
SAAB Fairchild SF-340	do	100
Aerospatiale 355-Fl	Helicopter	100
Aerospatiale AS 332L (icing)	do	100
Bell 406	do	40
MBB BK 117 (instrument)	do	100
Hiller FH 1100	do	Inactive
Westland WG-30-100/60	do	100
Sikorsky S-76C, D	do	0
Sikorsky CS-70C	do	0
Avco Lycoming LTF101 Series 650-3A	Engines	100
Avco Lycoming LTF101 Series 750A-3	do	100
Avco Lycoming LTF101 Series 750A-4	do	100
CFM International CFM-56 Series	do	25
International Aero Engine Limited V2500	do	10
General Electric CF6-80C2	do	25
Pratt and Whitney PW100	do	100
Pratt and Whitney JT8D-219	do	100
Pratt and Whitney 4000	do	80
Rolls Royce TAY	do	70
Rolls Royce GEM MK 530	do	100
Beech 300A	Normal, utility, acrobatic	35
Beech Lightning	do	Cancelled
Cessna Caravan-208	do	100
Embraer EMB-110P3	do	10
Embraer "Xinger" EMB-121A1	do	60
Gulfstream American 1500	do	Cancelled
Lear Fan 2100	do	Cancelled
OMAC TP-1	do	10
AVTEK 400	do	10
Gates-Piaggio 180	do	25

[1] Those projects whose percent completed is listed as 100 are considered completed during the past year.

AIRCRAFT CERTIFICATION CONSOLIDATION

Mr. COUGHLIN. You are requesting an increase of $240,000 for lease costs due to impending consolidations. Why are your lease costs increasing if you are consolidating?

[The information follows:]

The new space to be occupied is more expensive.

OPERATION AND MAINTENANCE ACTIVITY

Mr. COUGHLIN. On page 73 we have already discussed your operation and maintenance certification and inspection activities. For the past two years you have indicated that nearly one out of every three positions under your operation and maintenance activity are devoted to direction, administrative, or clerical support.

Last year you agreed that this is a relatively high overhead percentage. Is there a reason for this seemingly high overhead level?

[The information follows:]

The extensive geographic distribution of the Flight Standards field offices contributes to the range of overhead positions. Currently there are 699 positions devoted to direction, administrative, and clerical support activities. Of these 327 positions provide direct clerical and administrative support at 93 field offices, 255 are located at 9 regional headquarters offices, and 117 positions are at Washington headquarters.

O&M POSITIONS

Mr. COUGHLIN. Would you provide for the record a breakdown by function of your requested 2,565 positions under this activity?

[The information follows:]

OPERATIONS & MAINTENANCE PROGRAM POSITIONS

A breakout, by function, of the 2,565 positions requested in the Operations and Maintenance program activity follows:

Air carrier	1,023
General aviation	1,170
Systems/airworthiness	64
Regional headquarters	191
Washington headquarters	117

RECORDS EXAMINATION ASSISTANCE PROGRAM

Mr. COUGHLIN. On page 75 you are requesting an increase of $2,213,000 for contractual services to support a proposed records examination assistance program. Isn't records examination going to be a continuing part of your operation and maintenance activity? If not, why not? If so, why have you decided to perform this work by contract rather than by hiring additional in-house staff?

Mr. BRODERICK. It is in fact an ongoing part of our activity. It is a new one and one that we are emphasizing more.

Being a relatively new function and one which is susceptible to, if you will, a make or buy decision, and being a readily available service, we elected to go to outside contract.

In addition, I might say this provides us with a lot of flexibility because we will be using these people all over the country at various times when we go in for special in-depth inspections.

Mr. COUGHLIN. You indicate that these records examiners will be auditors. Do you intend to contract with CPA firms to do this work?

Mr. BRODERICK. We will bid this in open bid to a specification. We have used some CPA firms in the past and would expect them to bid on it in the future.

Mr. COUGHLIN. Approximately how many work years of effort do you expect to get for this additional $2,213,000?

Mr. BRODERICK. Between 20 and 30, sir, depending on the bid price.

AIR CARRIER AND GA INSPECTORS

Mr. COUGHLIN. Would you indicate for the record the number of air carrier and general aviation inspectors you currently have onboard and what your budget assumes for September 30, 1986, and September 30, 1987?

[The information follows:]

	Onboard (March 31, 1986)	Anticipated EOY (September 30, 1986)	EOY (June 30, 1987)
Air carrier	647	712	771
General aviation	849	1,007	1,079
Total	1,496	1,719	1,850

AVIATION SAFETY ANALYSIS SYSTEM

Mr. **Coughlin**. Last year it was indicated that by the end of fiscal year 1987 you expected to have all subsytems of the aviation safety analysis system on in-house computers, thereby reducing your contractual timeshare costs. Is that still your expectation?

Mr. **Broderick**. We hope to do that, sir. As I indicated earlier this morning in discussion, we are trying to work out the administrative computer system capacity problem.

Mr. **Coughlin**. Going back to question 10, for the $2,213,000, you get how many work years?

Mr. **Broderick**. I would estimate something like $75,000 a work year equivalent plus or minus. It depends on what the contract bid is, whatever the arithmetic shows. Isn't that 20 or 30, right?

Mr. **Coughlin**. Can't you hire someone cheaper than that?

Mr. **Broderick**. Certainly, if we can. If you look at the overall costs, we include overhead and that is an estimate that we have made.

Mr. **Coughlin**. On page 77, you are requesting 108 positions for records servicing and analysis. This is the same as fiscal years 1985 and 1986.

Two years ago it was stated that you expected to realize significant labor savings from the conversion of your aircraft registry to microfiche equipment. Last year you indicated that this conversion was about 80 percent completed and you anticipated seeing the labor savings in fiscal year 1987.

When might we see these labor savings reflected in your records servicing and analysis staffing?

Mr. **Broderick**. Our original estimate several years ago was that we would have 17 million images we would convert. As we got into the program and as the registry grew, our final estimate right now is 19.4 million images.

We expect to complete that by December 1986, and we will be in fact absorbing the savings in the program as we go along.

FLIGHT PROGRAM

Mr. **Coughlin**. On page 79 you are requesting 821 positions and $60,814,000 for your flight program.

In last year's hearing it was stated that you expected to issue a new directive regarding your evaluation, currency and transportation (ECT) program in May 1985. What did this directive provide and what is the current situation regarding pilots under your ECT program?

Mr. **Broderick**. The directive provided a completely reconfigured program for the ECT program. It also centralized control in the aviation national standards field office.

Our current situation is that we have a much better definition of currency and proficency. It is a new directive and we expect to amend it if the need be.

But it seems to be one providing economies while at the same time providing the flight time necessary.

PILOT CURRENCY AND PROFICIENCY

Mr. **Coughlin**. Will you include a brief summary of the guidelines you are currently using to determine if your pilots are current and proficient?

[The information follows:]

Before acting as Pilot-in-Command, a person must have logged at least the following hours within the preceding 180 days: (a) Twenty-four hours in a pilot capacity in any category of aircraft; (b) Twelve hours as the sole manipulator of the controls of an aircraft; and, (c) Or successful completion of a formal flight training course which requires manipulation of the controls and an appropriate flight check.

Additional requirements may apply depending on aircraft, type rating, night flying, instrument flight rule conditions, etc.

Mr. **Coughlin**. Would you also indicate for the record the number and percentage of your pilots who met these requirements for the past six months?

[The information follows:]

As of March 1, 1986, there were 1,180 evaluation, currency, and transportation flight program participants, and 1,085, or 92 percent, met the currency requirements for the past 6 months.

EVALUATION CURRENCY AND TRANSPORTATION PROGRAM

Mr. **Coughlin**. On page 80, why are your ECT flight hours estimated to increase by about 4,500 hours, or nearly 20 percent, in fiscal year 1987?

Mr. **Broderick**. We are hiring a significant number of new inspectors as we go along and as we have talked about, and those people have initial and continuing training.

In addition, one of the things that we have discussed in past fiscal years is the trough, if you will, that we got into several years ago by cutting back far too much on currency time for current inspectors. That is a catch-up situation in line with the new directive we issued that we spoke about a moment ago.

FUEL PRICE LEVELS

Mr. **Coughlin**. With the price of fuel decreasing, why are you requesting an increase of $1,133,000 for price level increases?

Mr. **Broderick**. The price level increases include consideration of essentially an even tradeoff between the reduction in the price of fuel and the slippage that we have discussed in the fleet conversion program, which is going to cause us for 1987 to buy more fuel. So it is essentially an even tradeoff, and that nets out to zero and this is just the price increases for the rest of the program.

FLIGHT PROGRAM OTHER OBJECTS

Mr. **Coughlin**. Would you provide for the record a breakdown of your other object costs for your flight program for fiscal years 1986 and 1987?

[The information follows:]

FLIGHT PROGRAM OTHER OBJECTS COST

[In thousands of dollars]

	Fiscal year— 1986	Fiscal year— 1987
Travel/transportation	1,607	1,674
Transportation of things	508	531
Rent/comm/utilities	956	1,007
Printing/reproduction	1	1
Other services	11,971	12,885
Supplies/material	10,197	10,669
Equipment	998	998
Insurance claims	14	14
Total other objects	26,252	27,779

FAA AIRCRAFT AND OPERATING COST

Mr. **Coughlin**. Would you also update for the record the tables on FAA aircraft and operating costs, as well as full-time pilots and salary costs that were included on page 440 of last year's hearing record?

[The information follows:]

FAA AIRCRAFT AND OPERATING COST

	1985	Fiscal year— 1986	Fiscal year— 1987
Number of aircraft	52	51	51
Estimated operating cost:			
Operations	$62,563.0	$56,995.0	$60,814.0
Facilities and equipment	3,003.9	2,775.0	9,091.3
Total operating cost	$65,566.9	$59,770.0	$69,905.3

FULL TIME PILOTS AND SALARY COST BY FISCAL YEAR

	1985		1986		1987	
	Number	Amount	Number	Amount	Number	Amount
Operations direct	103	$4,364.0	103	$4,383.0	103	$4,401.0
Research and development	8	340.0	8	359.0	8	378.0
Facilities and equipment (F&E)*	6	226.0	6	244.0	6	263.0
Total	117	$4,930.0	117	$4,986.0	117	$5,042.0

*Paid by refund from F&E to operations account and is cost of flight inspection of various airway facilities.

CIVIL AVIATIOIN SECURITY STAFFING

Mr. **Coughlin**. On page 82, you are requesting 436 positions and $26,437,000 for your civil aviation security program, which we have already discussed to some extent.

How many of your currently authorized 436 positions are filled and how many do you expect to have filled by the end of this fiscal year?

[The information follows:]

As of March 31, 1986, 326 civil aviation security positions were filled. By the end of this fiscal year, we expect to have 95 percent (414 of the 436) positions filled.

WEAPONS DETECTION

Mr. **Coughlin**. The information provided last year indicates that since calendar year 1980 there has been an increasing trend in the number of weapons detected. Is this primarily related to the increased number of passengers being screened or is there some other explanation?

[The information follows:]

In 1984, there were 2,957 weapons detected and there were 2,987 weapons detected in 1985 representing only a 1 percent increase. This rather small year-to-year change is not considered significant. Certainly, an increase in passengers screened as well as individual travelers' concern for their personal safety and tighter security are possible conditions contributing to such an increase.

Mr. **Coughlin**. Would you update for the record the aviation security tables on pages 443 and 444 of last year's hearing record?

[The information follows:]

U.S. Department of Transportation

Federal Aviation Administration

Civil Aviation Security
Airline Passenger Screening Results
January 1980-June 1985

	1980 Jan-June	1980 July-Dec	1981 Jan-June	1981 July-Dec	1982 Jan-June	1982 July-Dec	1983 Jan-June	1983 July-Dec	1984 Jan-June	1984 July-Dec	1985 Jan-June	1985 July-Dec
Persons Screened (Millions)	289.9	285.1	294.4	304.1	319.5	310.7	313.9	335.2	367.4	408.2	481.1	511.6
Weapons Detected												
Firearms	1002	1020	971	1284	1286	1390	1363	1421	1325	1632	1448	1539
(1) Handguns	940	938	915	1209	1243	1316	1303	1331	1265	1501	1385	1438
(2) Long Guns	17	19	7	37	16	41	22	45	31	69	38	52
(3) Other	45	63	49	38	27	33	38	45	29	62	25	49
Explosive/Incendiary Devices	1	7	8	3	0	1	4	0	4	2	5	7
Persons Arrested												
For Carriage of Firearms/ Explosives	520	511	534	853	851	883	833	849	565	720	802	708
For Giving False Information	11	21	34	15	21	6	7	27	8	21	17	25

Source: Reports of Passenger Screening Activities at U.S. Airports

As of: 1/1/86

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U.S. Department
of Transportation
**Federal Aviation
Administration**

Civil Aviation Security Compliance and Enforcement Actions

U.S. AIR CARRIERS	1973 through 1978		1979		1980		1981		1982		1983		1984		1985	
Warnings	1,141		253		154		465		164		231		181		426	
Letters of Correction	[illegible]		162		[illegible]		52		[illegible]		51		104		101	
Non Enforcement Actions	[illegible]		40		55		38		44		52		33		39	
Civil Penalties (Amount)	314	([illegible])	25	($18,075)	40	($42,875)	35	($72,547)	28	($18,500)	37	($28,611)	56	($82,300)	42	($105,296)
Investigations Closed	2,822		480		357		[illegible]		334		371		384		608	
Investigations Pending	[illegible]		60		112		115		91		183		[illegible]		145	
FOREIGN AIR CARRIERS																
Warnings	8		14		4		3		2		2		6		11	
Letters of Correction	34		6		4		0		2		1		0		3	
Non Enforcement Actions	10		3		15		1		2		2		3		4	
Civil Penalties (Amount)	0		0		0		2	($25,000)	0		0		3	($6,000)	0	
Investigations Closed	44		23		23		6		8		6		11		18	
Investigations Pending	14		15		5		2		4		4		1		7	
AIRPORTS																
Warnings Issued	571		80		83		83		98		57		43		53	
Letters of Correction	377		53		81		14		21		8		14		24	
Non Enforcement Actions	93		12		23		19		9		18		18		10	
Civil Penalties (Amount)	73	($43,800)	18	($15,150)	13	($16,000)	23	($21,075)	6	($6,300)	8	($7,250)	7	($6,700)	6	($10,900)
Investigations Closed	1,114		304		210		119		97		82		80		93	
Investigations Pending	52		60		40		25		18		14		12		25	
INDIVIDUALS																
Administrative Corrections	177		817		1,400		2,100		2,287		2,474		1,804		2,450	
Non Enforcement Actions	65		87		162		200		161		207		173		171	
Civil Penalties (Amount)	15	($4,300)	78	($11,300)	105	($27,210)	231	($48,410)	114	($38,085)	270	($64,150)	251	($78,425)	278	($80,705)
Investigations Closed	277		774		1,786		2,600		2,542		2,951		2,388		2,899	
Investigations Pending	90		382		475		380		403		550		802		508	

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SECURITY SCREENING COSTS

Mr. **Coughlin**. On page 84, you indicate that in fiscal year 1986 you intend to make your final subsidy payment to Pan Am and the other U.S. carriers for security screening costs associated with foreign air transportation.

Will you have obligated the full amount appropriated for this purpose?

Mr. **Broderick**. Yes, we will, sir.

Mr. **Coughlin**. Would you list for the record the carriers who received these subsidy payments and the amounts received by each?

[The information follows:]

INTERNATIONAL SECURITY COST

Following is a list of the U.S. carriers who have received subsidy payments for foreign air transportation security screening and the amounts for each:

Air Carrier	Amt. Apprvd. to Settle Claim Covering Fiscal Years 1976-1978	Amt. Apprvd. to Settle Claim Covering Fiscal Years 1975, 1979, and 1980	Total Amt. Apprvd.	Amt. Not Paid Due to Bankruptcy Action and Possible Offset for other Liability to U.S. Gov't	Amt. Withheld to Satisfy other Liabilities to the U.S. Government	Amt. Still to be Paid Pending Appeal	Total Amt. Paid
Braniff	$ 399,886	$ 149,230	$ 549,116	$549,116			0
Northwest Airlines	220,095	154,214	374,309			$154,214	$ 220,095
Pan American World Airways	4,783,419	6,245,081	11,028,500				11,028,500
Trans World Airlines	1,047,041	1,843,863	2,890,904		$141,418		2,749,486
TOTAL	$6,450,441	$8,392,388	$14,842,829	$549,116	$141,418	$154,214	$13,998,081

MEDICAL PROGRAM

Mr. COUGHLIN. On page 85 you are requesting 225 positions and $11,132,000 for your medical program.

A few weeks ago it was reported that the AMA recommended tightening health requirements for pilots and specifically excluding those with various heart ailments, past psychiatric disorders and certain other health problems.

Would you briefly summarize the major conclusions and recommendations of this report and indicate the actions you plan to take as a result of it?

Mr. BRODERICK. We had essentially 13 teams, I think it was, that looked at all facets of health programs for pilots. There are a myriad of changes recommended generally asking for increased data and improved use of state of the art techniques.

All of these recommendations are going to be publicly examined and appropriate rulemaking actions will be undertaken as appropriate. It will start with the cardiology area.

SUMMARY OF AMA REPORT

Mr. COUGHLIN. Would you insert an executive summary of this report in the record?

[The information follows:]

AMERICAN MEDICAL ASSOCIATION (AMA) REPORT

The FAA announced a comprehensive review of the airman medical standards in 1982 (47 FR 16298; April 15, 1982; 47 FR 30795; July 15, 1982). As the first step in the review process, the agency initiated a $697,882 contract with the AMA to provide the professional comments and recommendations of nationally recognized medical authorities.

On March 26, 1986, representatives of the AMA presented the Federal Air Surgeon with their report of a comprehensive review of the FAA's standards for airman medical certification. The AMA's review also encompassed the agency's application of the standards and its policies regarding the consideration for medical certification of individual airmen who have recovered from serious illnesses.

The report presented by the AMA recommends new or revised standards for cardiovascular, mental and behavioral, visual, endocrine, respiratory, hematological, hearing and equilibrium, musculoskeletal, and nervous system disorders. It also provides guidance for the medical certification of airmen with conditions not covered specifically by the standards and recommends a new medical history and examination form for use by aviation medical examiners. Risk factors for the development of sudden incapacitating disease, such as coronary heart disease and stroke, receive special attention.

The AMA report will be widely distributed and used, as appropriate, for the development of new standards and certification practices and for support of the agency's positions in judicial or administrative appeal actions. Formal rulemaking procedures will be required for any change in the medical standards that are contained in the Federal Aviation Regulations. Certificate practices and procedures that are not specified in the Regulations may be revised sooner through less formal mechanisms.

REVIEW OF MEDICAL STANDARDS

The following article summarizes the report of the comprehensive review by the American Medical Association.

NOTE: Executive Summary will be forwarded by Monday, May 12, 1986.

Special Communication

A Review of the Medical Standards for Civilian Airmen

Synopsis of a Two-Year Study

Alan L. Engelberg, MD, MPH; Harry L. Gibbons, MD, MPH; Theodore C. Doege, MD, MS

• This article summarizes the report of a comprehensive review by the American Medical Association (AMA) of the medical standards for civilian airmen. The present standards were promulgated by the Federal Aviation Administration in 1959; the alcoholism and cardiovascular standards were revised in 1982. The AMA report recommends new or revised standards for cardiovascular, mental and behavioral, visual, endocrine, respiratory, hematological, hearing and equilibrium, musculoskeletal, and nervous system disorders. It also provides guidance for the medical certification of airmen with conditions not covered specifically by the standards and recommends a new medical history and examination form for use by aviation medical examiners. Risk factors for the development of sudden incapacitating disease, such as coronary heart disease and stroke, receive special attention. Final standards will be developed by the Federal Aviation Administration.

(*JAMA* 1986;255:1589-1599)

THIS ARTICLE is a synopsis of a report of a comprehensive review by the American Medical Association (AMA) of the medical standards for civilian airmen, known as Part 67 of the Federal Air Regulations.[1] In its statement of work, the Federal Aviation Administration (FAA) requested that the final report detail:

> the results of a total and comprehensive review of the medical standards for airman medical certification and their application to enable the FAA to determine the medical fitness of applicants for exercise of airman privileges. . . . The report must consider pertinent advances in the field of medicine since 1959, and determine what changes in FAA medical standards, if any, are warranted, and the rationale for such changes.

This review presents recommendations made by the AMA to the FAA; the acceptance or modification of the recommendations is a matter that will be determined solely by the FAA.

HISTORY AND BACKGROUND

The first medical standards for civilian airmen were issued in 1926 by the Civil Aviation Administration. Specific standards were written only for hearing and vision. All other conditions were handled under the general rubric that if a medical condition interfered with the safe handling of an aircraft, a person with such a condition was denied certification. In 1959, the FAA came into existence, succeeding the Civil Aviation Administration.

The FAA was given greater authority to regulate aviation safety and soon developed medical standards that included the history or clinical diagnosis of specific medical conditions whose presence in an individual disqualified that individual from obtaining a medical certificate. These conditions were (1) a personality disorder severe enough to have repeatedly manifested itself by overt acts; (2) a psychosis; (3) alcoholism; (4) drug dependence; (5) epilepsy; (6) a disturbance of consciousness without satisfactory explanation of the cause; (7) myocardial infarction; (8) angina pectoris or other evidence of coronary heart disease that the Federal Air Surgeon finds may reasonably be expected to lead to myocardial infarction; and (9) diabetes mellitus that requires insulin or other hypoglycemic drugs for control. Specific hearing and vision standards were expanded, as was the general statement concerning all medical conditions that the Federal Air Surgeon finds "makes the applicant for a [medical certificate] unable to safely perform the duties or exercise the privileges of the airman certificate that he holds or for which he is applying."[1]

In 1982, the FAA adopted three significant changes in the regulations. First, the FAA defined alcoholism as "a condition in which a person's intake of alcohol is great enough to damage physical health or personal or social functioning, or when alcohol has become a prerequisite to normal functioning," and it gave the Federal Air Surgeon discretionary authority to issue a medical certificate to an applicant who has shown evidence of recovery from alcoholism, including abstinence from alcohol for not less than the two years preceding the date of application. Second, it separated the conditions of angina pectoris from other evidence of significant coronary heart disease, to clarify that angina pectoris itself is a disqualifying condition, and defined significant coronary heart disease as a condition that "has required treatment, or, if untreated, that has been symptomatic or clinically significant."[1] Third, the

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From the Department of Public Health Policy, American Medical Association, Chicago (Drs Engelberg and Doege), and the Salt Lake City-County Health Department (Dr Gibbons).

Reprint requests to Department of Public Health Policy, American Medical Association, 535 N Dearborn St, Chicago, IL 60610 (Dr Engelberg).

FAA adopted a new procedural mechanism, called "special issuance," by which the Federal Air Surgeon (or member of his staff acting with his authority) could issue a medical certificate to an applicant with a disqualifying condition and set specific criteria for type and frequency of medical monitoring that the person must follow to continue to hold the certificate.[4]

The changes in the cardiovascular standard and the adoption of the special issuance procedure resulted in part from several decisions handed down by the National Transportation Safety Board (NTSB) that severely limited the FAA's ability to regulate aviation safety through medical monitoring. An applicant who is denied a medical certificate may appeal to the NTSB, which has the authority to determine whether the applicant meets the rules, regulations, and standards that the FAA has established. Prior to 1982, the NTSB ruled in favor of some applicants with coronary artery disease who had been treated by bypass surgery and who had been denied medical certificates. By ordering the FAA to issue medical certificates, the NTSB effectively ruled that the FAA could not require any limitations or specific medical reevaluation.

When it adopted the changes in the Part 67 standards in 1982, the FAA announced that it would seek a thorough review of its medical standards, which had not been reviewed in toto since 1959. The review, conducted by the AMA and summarized here, is a result of that announcement.

CLASSES OF AIRMAN CERTIFICATES

One of three classes of airman medical certificates described in the Table must be held by an individual who wishes to operate a US-registered civilian aircraft.

The basis for the gradations of both the strictness of the medical standards and timing for routine reapplication and examination is the potential risk to public safety if a holder of an airman medical certificate should develop a sudden incapacitating illness or fail to see, hear, communicate, or make prudent decisions while operating an aircraft. Captains of passenger aircraft have hundreds of lives under their control, whereas pilots of private planes have but a few. The risk to the public is not based only on the number of passengers. Private pilots may still crash into a crowded shopping mall, and captains have one or two other crew members to help guide the aircraft down safely. And the responsibilities and job requirements of some holders of second-class certificates are demanding enough to place their risks to the public's safety as equal to those of airline captains. Such considerations were taken into account in the review process and in the standards and guidelines that are proposed.

Classes of Civilian Airman Certificates

Class*	Frequency of Recertification, mo	Required to Be Held by	Comments
First	6	Pilots in command (captains) of most passenger-carrying aircraft	Strictest medical standards, especially for hearing and vision
Second	12	All other airmen who derive income from operating aircraft, also civilian air traffic controllers not employed directly by FAA†	Group includes first officer (copilot) and second officer (engineer) of passenger aircraft, air freight pilots, corporate pilots, crop dusters, skywriters, and flight instructors
Third	24	Persons who operate US-registered aircraft for nonremunerative personal use	Least strict medical standards

*The standards for first-, second-, and third-class certificates are found in the Code of Federal Regulations, 14 CFR §67.13, §67.15, and §67.17, respectively.

†FAA indicates Federal Aviation Administration.

THE MEDICAL CERTIFICATION PROCESS

There are different levels of decision making in the airman medical certification process. At the first level are the aviation medical examiners (AMEs), who are the physicians to whom airmen first apply for certification. Aviation medical examiners are licensed practicing physicians who have a special interest in aviation and who are certified but not employed by the FAA to perform medical examinations. (A subset of AMEs are certified to perform examinations for first-class certificate applicants.) Aviation medical examiners may deny certification to an individual who fails one or more of the FAA's medical standards; AMEs may also defer the ruling of a denial to the FAA.

Since only a few medical conditions are mentioned in the standards, the AMEs are asked to use their best clinical judgment and knowledge of the requirements of piloting aircraft safely in their determination of whether to issue or deny a certificate, or to defer to the FAA. To assist AMEs, the FAA publishes an *Aviation Medical Examiners Guide* (*AME Guide*), in which the FAA provides the standards; procedural guidelines; guidelines on following up answers to medical history questions and on conducting an appropriate physical examination; guidelines on disposition of applicants with certain medical conditions; and guidelines for obtaining pertinent medical information from the applicant's personal physician(s) to help the FAA evaluate more thoroughly a particular medical condition.

When an AME defers judgment, or when an AME denies certification and the applicant appeals to the FAA, the matter is taken up either by a Regional Flight Surgeon or by staff physicians in the FAA's Aeromedical Certification Branch. These FAA physicians may grant a certificate without limitations or special follow-up, request more detailed medical records before making a determination, provide a "special issuance" certificate to the applicant with certain limitations or special medical follow-up, or deny certification entirely.

When the applicant is denied a certificate by either the Regional Flight Surgeon or the Aeromedical Certification Branch, he or she may appeal to the Federal Air Surgeon, who makes the final determination of issuance, special issuance, or denial, usually with the advice of a panel of special consultants.

Finally, an applicant who is denied a medical certificate by the Federal Air Surgeon may appeal to the NTSB, using his or her own resources to present a case. Few cases reach this level, but, as noted before, the decisions of the NTSB may have far-reaching consequences.

THE REVIEW OF THE MEDICAL STANDARDS

The final report of the AMA's review consists of five sections: (1) recommended medical standards for all three classes of airman certificates; (2) recommended changes to the medical history and examination form that is used routinely by the AME; (3) recommended changes in format and specific instructions in the *AME Guide*; (4) rationale for recommended standards and guidelines for the AME and further clinical recommendations to the FAA, especially regarding special issuances and medical follow-up of persons certified by special issuance, and (5) recommendations for future research.

In reviewing the current standards, AMA staff and consultants did not assume that all present standards needed to be changed. Realizing that not all medical conditions could be covered by specific standards, the AMA produced comprehensive guidelines to direct the medical evaluation and handling of persons who are thought to be at increased risk of suddenly or gradually occurring incapacitation or sudden death.

Important recommended changes in the medical history and examination form are questions about medical conditions in family members that may point to increased risk of the development of significant disease (diabetes mellitus, epilepsy, and glaucoma and heart disease in family members younger than 50 years), and the use of a number of new special tests reflecting the availability of tests that can more accurately quantitate the functioning of organs and organ systems. These include sitting and standing blood pressure determinations, speech discrimination or audiometry, hematocrit, and "mini-mental status," and for certain persons, instrument tonometry, fasting plasma glucose, simple spirometry, and electrocardiography. The rationale for recommending these tests is presented below.

The *AME Guide*, an important document in the medical certification process, serves to guide the AME through the administrative process and also serves as a mini-textbook of clinical medicine. The recommended *AME Guide* is arranged in sections by organ system, and for each section there is a review of the pertinent standards, a guide to handling positive answers on the medical history form, a guide to the conduct of the physical examination and pertinent laboratory tests, and a guide to the handling of the applicant based on all relevant medical findings.

The section on the rationale for the recommended standards and further clinical recommendations explains the reasoning behind those standards and proposed guidelines and provides guidance to the FAA on any other medical conditions that the consultants deemed important or controversial, or about which the FAA requested assistance.

The participants in the review project realize that there are few hard data on the efficacy of either the present or recommended standards and guidelines of enhancing flight safety. Thus, many of the recommendations are based on their best clinical judgments. With the hope of strengthening the information base upon which future guidance to the FAA may be given, suggestions for future research are made, ranging from surveillance of pilots who are issued certificates under special issuance for certain medical conditions to the development of new screening tests that are more appropriate to the aviation environment. An example of the former is close surveillance of pilots with diabetes mellitus or histories of myocardial infarction, coronary angioplasty, bypass surgery, or arrhythmia. Examples of the latter are the development of a test of a pilot's ability to discriminate speech in the cockpit environment, and a visual test for third-class certificate applicants to discriminate aviation signal red, green, and white in the physician's office.

Seventy-one consultants assisted the AMA's staff in reviewing the medical standards. These consultants were clinical specialists and/or specialists in aviation medicine or had a special interest in aviation; some were themselves pilots. The intent in selecting these consultants was to get a mix of physicians with knowledge and interest in aviation and with strong credentials in a specialty of clinical medicine.

The consultants were grouped into 13 working committees, 12 of which reviewed testing, diagnosis, treatment, and follow-up of medical conditions affecting specific organ systems and one of which reviewed the importance of risk factors for sudden, incapacitating events in the medical certification process. The chairmen of the working committees, the AMA staff (A.L.E. and T.C.D.), and a special consultant (H.L.G.) constituted a steering committee, which reviewed the draft reports of the working committees. The working committees met from two to four times over the course of two years. At the completion of the project, the Risk Factor Working Committee, all of whose members are past presidents of the Aerospace Medical Association, acted as a final committee that reviewed the report before its submission to the FAA.

The purpose of this extensive internal review was to attempt to foster agreements among working committees. However, when agreements were not possible, all recommendations of the committees that disagreed were submitted to the FAA.

In its statement of work to the AMA the FAA requested that:

> Current concepts in the determination of risk for adverse medical events, such as stroke or myocardial infarction or other incapacitating conditions, and the usefulness of diagnostic and prognostic techniques in the determination of body system functioning and of qualification for airman medical certification, must be addressed. Suggestions should be developed for the inclusion of such techniques in the standards if deemed appropriate and feasible.

This raised the question about the purpose of the AME examination: Should the examination remain a "safety" examination or should it become a "preventive medicine" examination as well? At present, the examination is designed to detect overt illness that may diminish flight safety. To that end the FAA may deny a medical certificate to an applicant whose illness may significantly affect ability to perform an airman's duties safely over a 24-month period. Risk factors do not necessarily have so quick and severe an effect. Yet it is also the concern of the FAA and the AME that pilots remain healthy for as long as possible. Examinations for safety and for disease prevention, therefore, are not mutually exclusive, but they are different.

After much discussion the project participants concluded that the examinations should remain safety examinations, with the incorporation of some risk factor identification items, especially for cardiovascular, pulmonary, and visual disorders. This promotes safety and increases the likelihood that pilots who pay attention to the risk factors will have opportunities for recertification in the future. Examples of such risk factors include family history of diabetes mellitus, early morbidity from heart disease, and glaucoma; tobacco smoking, which may lead to using spirometry for the detection of early pulmonary impairment; and levels of blood lipids and plasma glucose, which would be determined at specified ages. Some clinical techniques that are wise to include in a routine medical examination, such as breast examinations and testicular examinations, are not mandated, but rather are encouraged.

RECOMMENDED STANDARDS

Cardiovascular System

For first-, second-, and third-class certificates

A. An applicant shall have no established medical history or clinical diagnosis of

- Myocardial infarction
- Angina pectoris
- Coronary heart disease that has required treatment or, if untreated, is or has been symptomatic or clinically significant.
- Any form of heart or arterial surgery, including coronary angioplasty or permanent pacemaker insertion.
- Any form of congenital heart disease.
- Any significant heart murmur or valvular heart disease.
- Any evidence of pericarditis or cardiomyopathy.
- Any significant disturbance of heart rhythm or conduction.
- A sitting blood pressure equal to or greater than 150/95 mm Hg or a systolic blood pressure greater than 160 mm Hg, or a history of any antihypertensive medication within the last year, or any history of surgery or angioplasty for the treatment of hypertension.
- Any evidence of significant peripheral arterial-vascular obstructive disease or aneurysm, or a history of surgery for these conditions.

B. The applicant's sitting blood pressure must not exceed 150/95 mm Hg.

For first- and second-class certificates only

C. For airmen who fly in single-crew cockpit operations, at age 50 years, the applicant must have a total serum cholesterol level of less than 300 mg/dL.

For first-class certificates only

D. On initial certification, and at age 35 years, at age 40 years, and annually after age 40 years, the applicant must demonstrate an absence of any significant electrocardiographic abnormality, including myocardial infarction. An electrocardiogram, made according to acceptable standards and techniques 30 days or less before an examination for a first-class certificate, is accepted at the time of the physicial examination.

For second-class certificates only

D. On initial certification, and at age 35 years, at age 40 years, and every two years thereafter, the applicant must demonstrate an absence of any significant electrocardiographic abnormality, including myocardial infarction. An electrocardiogram made according to acceptable standards and techniques within 30 days before an examination for a second-class certificate is accepted at the time of the physical examination.

For third-class certificates only

D. On initial certification, and at age 40 years, and at a minimum every six years thereafter, the applicant must demonstrate an absence of any significant electrocardiographic abnormality, including myocardial infarction. An electrocardiogram, made according to acceptable standards and techniques within 30 days before an examination for a third-class certificate is accepted at the time of the physical examination.[2-4]

Cardiovascular disease poses the greatest medical threat to flight safety[5] and has been the subject of thorough review during the past decade in the United States[6] and in Europe.[7] By amending its cardiovascular standards in 1982 and by the selected use of the special-issuance procedure, the FAA has demonstrated an understanding of the advances in cardiovascular diagnosis, treatment, and rehabilitation.

The recommended standards are more detailed than the present ones, which mention only coronary heart disease and its signs and symptoms. The recommended standards point out that other forms of heart disease, such as congenital, valvular, pericardial and myocardial diseases, and arrhythmias, may cause sudden incapacitation or death and that pilots with a history or presence of these forms of heart disease must be evaluated thoroughly before being certified medically.

At present first-class certificate holders are required by standards to pass blood pressure measurements, which range from 140/88 mm Hg in pilots aged 20 to 29 years to 170/100 mm Hg in pilots aged 50 years or older.[8] This is inconsistent with the present knowledge about hypertension. First, in the absence of other clinical or laboratory evidence of cardiovascular disease, blood pressure may be the best predictor of cardiovascular events that might cause unexpected disability or death in a pilot or other flight crew members.[9,10] Thus, it is unwise to restrict blood pressure standards to only one class of certificate holder. Second, the diagnosis of hypertension in adults is confirmed when the average of two or more measurements of diastolic blood pressures obtained in the sitting position on at least two separate visits or on separate measurements is 95 mm Hg or greater and when the average of measurements of multiple systolic blood pressures obtained on two or more separate visits is consistently greater than 150 mm Hg.[11] A sustained systolic blood pressure over 160 mm Hg itself is associated with increased risk of sudden death.[12] Third, the prognostic significance of high blood pressure is greater in the older age groups.[13]

Similarly, the present limitation of routine electrocardiograms to first-class certificate holders belies the importance of the electrocardiogram as a screening tool. Up to 20% of heart attacks fail to produce symptoms that bring a person to a physician,[14] and the resting electrocardiogram may show a prior myocardial infarction or patterns of left ventricular hypertrophy and nonspecific ST-segment and T-wave abnormalities that are associated with an increased risk of coronary artery disease.[16,17]

Furthermore, other common abnormalities of intracardiac conduction, such as right and left bundle-branch blocks and the Wolff-Parkinson-White syndrome, which are not associated with symptoms or easily detected physical findings, may trigger concern regarding certification, assessment, and follow-up.

The recommendation for cholesterol determinations for airmen at age 50 years with first-class and second-class certificates in single-crew cockpit operations raises a number of issues. First, the presence of high levels of serum cholesterol is a known risk factor for atherosclerotic heart disease, even for young adults.[18,19] For the sake of disease prevention, a young pilot should be aware of his or her serum cholesterol level and maintain it at a safe level that is well below 300 mg/dL. However, the cardiology consultants could not agree that a reading of 300 mg/dL in a pilot younger than 50 years constitutes a risk to aviation safety.[20] Therefore, they selected for lipid study a pilot population at highest risk to the public's safety. Second, the concept of "single-crew cockpit operations," that is, a work situation in which one other person is not present who is capable of performing all the duties of the airmen in the cockpit (or tower, for air traffic controllers), relates to an operational milieu that would increase the risk to the public's safety due to the presence of a pilot with a known risk of sudden cardiac disease. Conversely, "multicrew operations" would decrease the safety risk. We realize that combining an operations concept with medical recommendations may present the FAA with some legal and administrative difficulties, especially for holders of first-class certificates,[7] yet we believe that this concept is a valid one.

The Risk Factor Working Committee recommended a more preventive approach to lipid determinations. They suggested that serum cholesterol and triglyceride levels be determined for all applicants when they apply for initial aeromedical certification. If the values are 300 mg/dL and 200 mg/dL or greater, respectively, then the FAA should require lipid determinations every six months and an annual complete physical examination until the serum lipid levels drop below these levels.[21] The Risk Factor Committee and the Cardiovascular Committee concurred that pilots at age 50 years who have serum cholesterol levels of 300 mg/dL or greater should demonstrate a negative response to a treadmill exercise test before a certificate may be issued.

With the US civilian pilot population being predominantly male and middle-aged, coronary artery disease is by far the most important medical issue for aviation.[1,20] The propensity for sudden onset and sudden death adds to the concern.[22,23] Yet the occurrence of air transport incidents resulting from sudden incapacitation of air crew members because of cardiovascular events is very low[7]; for this reason, and because of its low predictive value,[1,26,27] routine stress electrocardiography is not recommended. The AMA report recommends instead that the FAA establish a surveillance program to test the reliability of risk factor monitoring to predict sudden, incapacitating cardiovascular events.

Mental and Behavioral Disorders

For first-, second- and third-class certificates:

A. An applicant shall have no established medical history or clinical diagnosis of any of the following:

- Substance abuse, substance dependence, and related substance use disorders, including but not limited to those associated with alcohol, barbiturates, other sedative-hypnotics, muscle relaxants, anxiolytics, opioids, central nervous system stimulants such as cocaine and amphetamines, and hallucinogens such as phencyclidine, cannabis, and volatile solvents and gases.
- Schizophrenic disorders, including disorganized, catatonic, paranoid, undifferentiated, and residual subtypes.
- Paranoid disorders, including paranoia, shared paranoid disorder, acute paranoid disorder, and atypical paranoid disorder.
- Psychotic disorders not elsewhere classified, including schizophreniform disorder, brief reactive psychosis, schizoaffective disorder and atypical psychosis, infantile autism, childhood-onset pervasive developmental disorder, and atypical pervasive developmental disorder.
- Major affective disorders, including bipolar disorder and major depression.
- Anxiety disorders, including panic disorders.
- Dissociative disorders, including psychogenic amnesia and fugue, multiple personality, depersonalization disorder, and atypical dissociative disorder.
- Disorders of impulse control, including intermittent and isolated explosive disorder.
- Personality disorders, including paranoid, schizoid, schizotypal, histrionic, narcissistic, antisocial, and borderline.
- Disorders that are usually first evident in infancy, childhood, and adolescence.
- Organic brain syndrome.

B. An applicant shall have no other organic, psychotic, substance use, affective, anxiety, dissociative, psychosexual, impulse control, adjustment, pervasive developmental, or personality disorder, or other mental disorder that the Federal Air Surgeon finds:

- Makes the applicant unable to perform safely the duties or exercise the privileges of the airman certificate that he or she holds or for which he or she is applying; or
- May reasonably be expected, within two years after the findings, to make the applicant unable to perform those duties or exercise those privileges; and the findings are based on the case history and appropriate qualified medical judgment relating to the condition involved.

C. At the discretion of the Federal Air Surgeon, a certificate may be issued to an applicant who does not meet the provisions above if there is established clinical evidence of recovery satisfactory to the Federal Air Surgeon in accordance with the following criteria:

- *Substance abuse, substance dependence, and related substance use disorders.* Sustained total abstinence from alcohol for not less than the preceding two years, and other substances of abuse for not less than the preceding five years, associated with stable social and occupational functioning; and absence of mental disorder or psychopathology as demonstrated by psychiatric evaluation and psychological testing. For alcohol abuse and dependence, the required two-year period of abstinence may be reduced by the Federal Air Surgeon for cases in which an appropriate level of medical and operational monitoring has been established.
- *Psychotic disorders not elsewhere classified.* After a single episode, sustained freedom from all signs and symptoms of the disorder for the preceding year for brief reactive psychosis, and for the preceding two years for schizophreniform disorder, while taking no medication, and associated with stable social and occupational functioning; and absence of other mental disorder or psychopathology as demonstrated by psychiatric evaluation and psychological testing.
- *Major depression.* After a single epi-

sode, sustained freedom from all symptoms and signs of the illness for not less than the preceding one year, associated with stable social and occupational functioning; and absence of other mental disorder or psychopathology as demonstrated by psychiatric evaluation and psychological testing.

- *Panic disorders.* Sustained freedom from any symptoms that would represent a hazard to flying safety, with no use of antianxiety or other psychotropic medication, for not less than two years, associated with stable social and occupational functioning; and absence of other mental disorder or psychopathology as demonstrated by psychiatric evaluation and psychological testing.
- *Personality disorders other than paranoid, schizoid, schizotypal, histrionic, narcissistic, antisocial, and borderline:* Sustained freedom from any behavior that reflects impaired judgment or creates legal or disciplinary problems for not less than the preceding five years, associated with stable social and occupational functioning; and absence of other mental disorder or psychopathology as demonstrated by psychiatric evaluation and psychological testings.

D. Individuals with any of the disqualifying conditions listed in paragraphs A and B, except as provided for in paragraph C above, are not usually eligible for certification. However, an applicant may still seek reconsideration by the Federal Air Surgeon who, acting on behalf of the administrator, will continue to issue medical certificates to applicants who are able to perform airman duties without endangering safety. In making this decision, the Federal Air Surgeon considers the natural history and severity of the problem, the period of satisfactory recovery since manifestation of the problem, and treatment and continuing requirements for treatment. Other factors the Federal Air Surgeon considers include (1) any current or recent psychiatric symptoms, aberrant behavior, or psychiatric or other medical findings; (2) the need for, or use or abuse of, any clinical agents, for either therapeutic or recreational purposes; (3) any personality traits or other recognized factors involving the risk of future recurrence of the problem or the risk of adverse effects, and (4) the current psychiatric functional status and stability of the applicant, as determined by appropriate evaluative techniques.

The recommended standards differ considerably from the present ones,[illegible] not only in their length, but also in their organization. The recommended standards are designed to incorporate the terminology of the *Diagnostic and Statistical Manual of Mental Disorders,* edition 3 (*DSM-III*).[illegible] A major feature of *DSM-III* is the elimination of major categories, such as psychoses and neuroses, in favor of many syndromes, each with its own set of explicit diagnostic criteria. Thus, disorders that have the symptoms of psychosis, such as organic disorders, schizophrenia, paranoid disorders, affective disorders, and schizotypal and borderline personality disorders, are listed separately in the recommended standards, and "psychosis" as a disqualifying condition is not mentioned. The Mental and Behavioral Disorders Committee recognizes that such explicit criteria may pose some difficulty in a regulatory process. For example, a diagnosis of schizophrenic disorder requires that the illness be present continuously for at least six months[illegible]; a diagnosis of antisocial personality disorder requires that a pattern of antisocial behavior occur before age 15 years. Evidence for both of these stipulations may be difficult to obtain in a regulatory setting.

The recommended standards also reflect the *DSM-III* definitions of substance abuse and substance dependence, the former being distinguished by a pattern of pathological use and impairment in social or occupational functioning as a result of that use, and the latter by the addition of tolerance and withdrawal. The term "alcoholism," which is used in the present standards, is avoided, since there is no explicit definition of this term in *DSM-III*. The provision in the recommended standards that allows the Federal Air Surgeon to waive the required two-year period of abstinence for alcohol abuse and dependence when there is evidence of medical and operational monitoring is designed to entice alcohol-abusive or alcohol-dependent pilots into treatment programs, who might otherwise remain "closet" drinkers for fear of losing their incomes for no less than two years. For the past eight years the FAA and the Air Line Pilots Association have cooperated in an alcohol abuse and dependence treatment program, through which 850 airline pilots have come forth for assistance (Richard L. Masters, MD, oral communication, 1985). The recommended standards would continue to foster and possibly enhance the value of such programs.

Alcohol abuse and dependence are but two syndromes that may affect cognitive function, as may dementia or affective disorders. The routine AME examination has never included tests that would detect a diminution of cognitive function, which if left unnoticed may result in poor pilot judgment or slow reaction time in critical operational situations. The committee devised a five-question mental status examination that is based on the "mini-mental state" of Folstein et al,[illegible] which can be administered at every examination by the AME or an assistant. The applicant would be expected to answer each question correctly, and any deviation from a perfect score would require that the complete mini-mental state examination of Folstein et al be given. Since the five-question examination is new and untested, the AMA report recommends that the FAA monitor the use and acceptance of the examination by pilots and AMEs and assess its validity and reliability as a screening tool in detecting diminished cognitive functions in the pilot population.

Vision Standards

For first- and second-class certificates.

A. An applicant must meet the following standards:

- Distant visual acuity of 20/20 or better in each eye separately, without correction, or of at least 20/200 in each eye separately, corrected to 20/20 or better with conventional corrective lenses (glasses or contact lenses), in which case the applicant shall be qualified only on the condition that he or she wear those corrective lenses while exercising the privileges of the airman certificate.
- Near vision of 20/40 Snellen equivalent or better at 16 inches in each eye separately, with or without corrective lenses. After age 50 years, near vision of 20/40 Snellen equivalent or better at both 16 inches and 32 inches in each eye separately, with or without corrective lenses. If corrective lenses are required to meet this standard, the applicant may be qualified only on the condition that he or she wear those corrective lenses while exercising the privileges of the airman certificate.
- Normal color vision.
- Normal fields of vision.
- No acute or chronic pathological condition of either eye or adnexa that might interfere with its proper function, might progress to that degree, or might be aggravated by flying.
- Bifoveal fixation and vergence-phoria

relationships sufficient to prevent a break in fusion under conditions that may reasonably occur in performing airman duties. Tests for these factors are not required except for applicants found to have more than 1 PD of hyperphoria, 6 PD of esophoria, or 6 PD of exophoria. If these values are exceeded, the Federal Air Surgeon may require the applicant to be examined by a qualified eye specialist to determine if there is bifoveal fixation and adequate vergence-phoria relationship. However, if the applicant is otherwise qualified, he or she is entitled to a medical certificate pending the results of the examination.

- Intraocular pressure of no more than 25 mm Hg as measured by tonometry in either eye in every applicant over age 40 years, or in any applicant with a family history of glaucoma in a first-degree relative. The difference between the intraocular pressure in the two eyes must not be greater than 5 mm Hg. If intraocular pressure measures greater than 25 mm Hg in either eye, or if the intraocular pressure difference between the two eyes is greater than 5 mm Hg, ophthalmologic evaluation is necessary to rule out glaucoma. If the applicant is otherwise qualified, he or she is entitled to a medical certificate pending the results of the ophthalmologic evaluation.

For third-class certificates

B. An applicant must meet the following standards:

- Distant visual acuity of 20/40 or better in each eye separately, without correction; or if the vision in either or both eyes is poorer than 20/40, and is corrected to 20/30 or better in each eye with conventional corrective lenses (glasses or contact lenses), the applicant may be qualified on the condition that he or she wear those corrective lenses while exercising the privileges of the airman certificate.
- Near vision of at least 20/40 Snellen equivalent or better, with or without correction at 16 in; after age 50 years, near vision of 20/40 or better at both 16 in and 32 in, with or without correction. If corrective lenses are required to meet this standard, the applicant may be qualified only on the condition that he or she wear those corrective lenses while exercising the privileges of the air certificate.
- Ability to distinguish aviation signal red, aviation signal green, and aviation signal white.
- No acute or chronic pathological condition of either eye or adnexa that might interfere with its proper function, might progress to that degree, or might be aggravated by flying.
- Intraocular pressure of no more than 25 mm Hg as measured by tonometry in either eye in every applicant over the age of 40 years or in any applicant with a family history of glaucoma in a first-degree relative. The difference between intraocular pressure in the two eyes must not be greater than 5 mm Hg. If the intraocular pressure measures greater than 25 mm Hg in either eye, or if the intraocular pressure difference between the two eyes is greater than 5 mm Hg, ophthalmologic evaluation is necessary to rule out glaucoma. If the applicant is otherwise qualified, he or she is entitled to a medical certificate pending the results of the ophthalmologic examination.

The recommended standards for first-class and second-class certificates are identical, since some second-class certificate holders may operate aircraft that transport passengers or operate aircraft in and around major airports where passenger-carrying airplanes are present. The requirement that all certificate holders meet near vision standards of 20/40 Snellen equivalent or better is based on the use of characters of 20/40 Snellen-scale size or larger or aeronautical maps. Intermediate vision at 32 inches should be tested in first- and second-class certificate holders aged 50 years and older, since instrument flight is common, and presbyopia with diminished intermediate vision becomes more prevalent at that age.

Increased intraocular pressure of greater than 24 mg Hg, which is objective evidence for the possible development of glaucoma, occurs in less than 0.15% of the US population.[illegible] Because of the insidious course of chronic, open-angle glaucoma, which may remain asymptomatic until large changes to visual fields, night vision, and contrast sensitivity have taken place, and because with easy, objective testing, glaucoma can be approached in a preventive manner, the AMA report recommends that intraocular pressure be tested in all pilots aged 40 years and older and in pilots who have a strong family history of glaucoma.[illegible] Instrument testing for intraocular pressure is already required for FAA-employed air traffic controllers.

The significance of color vision in aviation was identified in 1920 by Wilmer and Berens,[illegible] who stated: "The proper recognition of color plays an important part of the success of all types of flyers." Today color discrimination is useful in the identification of signals and navigation lights, airport beacons, approach lights, and runway and taxiway lights; in viewing instrument panel warning lights, cathode-ray tube displays, and radar; in detecting color differences in terrain; and in map and chart reading. Yet investigators have not clearly established that color vision standards and screening techniques for them have enhanced flight safety."[illegible]

Both the present and recommended standards require that first-class and second-class certificate holders have "normal color vision," but what constitutes "normal" depends on the uses of color vision in aviation and the methods by which color vision is tested. Ideally, testing for normal color vision should discriminate between those who are "color safe," that is, those who can identify aviation signals correctly, from those who cannot. The US Air Force School of Aviation Medicine Color Threshold Tester was designed to test the ability to discriminate aviation signal colors at differing intensities. Persons with normal color vision could discriminate colors even at the lowest intensities; persons with color deficiencies would make more errors as the intensities are reduced. This color threshold tester was field-tested, and a cutoff score was described as the level at which pilots did not report difficulty in identifying aviation signals while operating aircraft."[illegible] However, with few such color threshold testers in existence, this test obviously cannot be used as a screening device in civilian aviation.

What is available to the AMEs are devices that can be used in the office, including the Titmus vision tester, Keystone Orthoscope/Telebinocular, and the pseudoisochromatic plates of Isihara, Hardy-Rand-Ritter, Dvorine, and the American Optical Company. Each tests for different qualities of color blindness, and some are also quantitative. Each has its own cutoff point for pass or fail. The pseudoisochromatic plates in particular are effective screening tools, because they are inexpensive, are easily used by experts and relatively untrained examiners, and take little time."

The AMA report offers no new insight into the problems of color vision testing and how to handle persons with less than normal color vision. At present, applicants for first- and second-class certificates with abnormal screening tests results may be limited to flying in the daytime or may request a medical flight test to prove that their deficiencies do not interfere with the performance of their duties. Applicants for third-class certificates, who are required only to distinguish aviation signal green, red, and white, may be tested by a signal light gun test at a local air traffic control tower; the AMA report suggests no reason to change these procedures at present. It does suggest that the FAA develop and field test a signal light gun instrument that could be used in AMEs' offices.

Endocrine System

For first-, second-, and third-class certificates.

A. The applicant shall have no established medical history or clinical diagnosis of diabetes mellitus that requires insulin for control.

The present standard for diabetes mellitus denies certification to any person with a medical history or clinical diagnosis of diabetes mellitus that requires insulin or an oral hypoglycemic drug for control.[illegible] Until only very recently, the FAA provided no special-issuance certificates to persons who failed to meet this standard. Both the hard line of the past and the loosening up of the present created whirlwinds of controversy. Possibly no other issue took as much painstaking review as this one.

The AMA report continues to recommend that persons taking insulin be denied certification. This recommendation is based on three factors: (1) that symptoms of neuroglycopenia may develop without warning in individuals taking insulin[illegible]; (2) that there is an inherent unpredictability of hypoglycemic episodes that cannot be monitored readily[illegible]; and (3) that the combined effects of hypoglycemia and hypoxia on cognitive functioning are not known.

The recommendation to remove the absolute prohibition against certifying persons taking oral hypoglycemic agents is based on the evidence that (1) acute or chronic malnutrition almost always accompanies the hypoglycemia caused by sulfonylureas, (2) that other factors predispose to hypoglycemia, including advanced age, renal or hepatic disease, adrenocortical insufficiency, and the use of alcohol, salicylates, and other drugs,[41,42] and (3) that in automobile drivers who have non-insulin-dependent diabetes, there is an apparent absence of hypoglycemic symptoms.[43] Non-insulin-dependent diabetic pilots, who are usually well educated, well nourished, and highly motivated, would not be expected to suffer from hypoglycemic episodes.

The AMA report recommends very strict guidelines concerning the appropriate administrative management of pilots with non-insulin-dependent diabetes. These guidelines include trials of diet therapy only or diet therapy with oral hypoglycemic agents for at least three months, during which time the airman must be educated about his or her diabetes in a program consistent with the guidelines of the National Diabetes Advisory Board.[illegible]

Respiratory System

For first-, second-, and third-class certificates.

A. At the first examination after the 40th birthday, the applicant must demonstrate the absence of severe lung disease by performance of spirometry. Severe lung disease is defined as a forced vital capacity equal to or less than 50% predicted, or a forced expiratory volume in 1 s equal to or less than 50% predicted, or a forced expiratory volume in 1 s/forced vital capacity percent equal to or less than 50%. Spirometry shall be repeated every six years in order to demonstrate the continued absence of severe lung disease.

B. An applicant shall have no established medical history or clinical diagnosis of:

- Lung disease that is severe enough to produce, or likely to produce, chronic hypoxia to a level of Pa_{O_2} less than or equal to 65 mm Hg while breathing room air at sea level.
- Poorly controlled asthma. As used in this section, poorly controlled asthma is defined as chronic wheezing or recurrent acute episodes of wheezing occurring at least once weekly despite administration of bronchodilator medications.
- Hypersomnolence sleep apnea syndrome or hypoventilation syndrome.
- Chronic pulmonary hypertension as defined by a mean pulmonary artery pressure greater than or equal to 35 mm Hg.
- Recurrent unilateral pneumothorax or bilateral pneumothoraxes occurring separately or simultaneously, unless surgical or chemical pleurodesis has been performed.
- Recurrent pulmonary emboli.
- Metastatic carcinoma of the lung, and surgically unresectable carcinoma of lung not yet proved to be metastatic.

The evaluation of the respiratory system is based on two general principles: (1) there should be maintenance of adequate oxygenation throughout flight and (2) retention of carbon dioxide should be avoided. Since direct measurement of arterial oxygen and carbon dioxide levels is impractical in an AME's office, the medical history and clinical assessment is directed toward detecting those applicants who may need special assessment to rule out chronic hypoxemia or hypercapnia. To this end, the AMA report recommends the inclusion of spirometry in the routine assessment of applicants at certain ages, for all applicants who have a history of smoking at least 20 pack-years of cigarettes, and for those with histories of chronic obstructive pulmonary disease, asthma, and dyspnea. The physiological measurements for spirometry and arterial oxygen tension that are noted in the recommended standards are levels that are considered inadequate for oxygen maintenance or avoidance of carbon dioxide retention. These levels do not imply that all persons whose measurements exceed these numbers are presumed to be free of the central nervous system effects of hypoxemia or hypercapnia. The setting of the Pa_{O_2} at 65 mm Hg at sea level while breathing room air was of particular concern to the nonpulmonary consultants in our review project, who thought that Pa_{O_2} levels just above 65 mm Hg are still very low and unsafe. However, the lower limit of normal for 80-year-old persons is 67 mm Hg,[illegible] and the pulmonary consultants concluded that a margin of error of 2 mm Hg in some instances may be acceptable.

Hematologic System

For first-, second-, and third-class certificates.

A. At the first examination after the 40th birthday, the applicant must demonstrate the absence of severe disorders of red blood cells by a hematocrit determination. Hematocrits must fall between 32% and 55% for issuance of a certificate.

For first- and second-class certificates only.

B. Hematocrit determinations must be repeated annually.

For third-class certificates only

C. Hematocrit determinations must be repeated at the time of the routine examination.

As with the physiological standards for pulmonary function, the recommended standards for maximum and minimum hematocrits do not imply that all values between these numbers are safe. The etiologies of anemic or polycythemic states should be determined, and the ability of individuals to compensate through pulmonary and cardiac mechanisms should be assessed. An underlying cause of an abnormal hematologic value that is still within the standards or guidelines itself may be disqualifying.

There is little debate about the adverse effects of low hemoglobin concentrations. The effects of high hemoglobin concentrations may be just as critical. Regardless of the cause of polycythemia, there is good evidence that cerebral blood flow and some mental functions decrease continuously in a linear fashion as hematocrit increases; conversely, reducing the hematocrit is associated with a linear increase in cerebral blood flow and an improvement in intellectual function.

Hematocrit has a tendency to increase in normal individuals who reside in altitudes above sea level. However, adequate data are not available to establish normal values for persons living at high altitudes. According to the National Center for Health Statistics, the 95th percentile of hematocrit for nonsmoking men of all ages over 20 years and living at sea level never exceeds 50%; for women the comparable value is 47%. Thus, the AMA report concludes that few if any normal individuals living at high altitudes should be adversely affected by the standard.

Ear, Nose, Throat and Equilibrium

For first-, second-, and third-class certificates:

A. An applicant shall:

- Demonstrate an acceptable understanding of speech as determined by audiometric speech discrimination testing to a score of at least 70% obtained in one ear or in a sound field environment, or
- Provide acceptable results of audiometric testing of unaided acuity according to the following table, using the standards of the American National Standards Institute, 1969:

	Frequency, Hz			
Acuity, dB	500	1,000	2,000	3,000
Better ear	35	30	30	40
Poorer ear	35	50	50	60

B. An applicant shall have:

- No disease of the middle or internal ear that will cause acute paroxysms or unpredictable attacks of vertigo.
- No disease or malformation of the nose, oral cavity, pharynx, or larynx that might interfere with, or be aggravated by, flying.
- No disease or malformation of the oral cavity, pharynx, or larynx that would interfere with clear and effective speech communication.

The "whispered voice" test for hearing, which is all that is required presently for holders of second- and third-class certificates, is antiquated, nonobjective, and not at all related to the requirements of hearing in the cockpit environment. Ideally one would want to test an airman's ability to understand speech as it would be heard in radio communications in a cockpit. The pilot's ability to understand speech is a function of hearing level, ability to discriminate speech from background noise, and knowledge of aviation jargon in order to piece together a command or information from a control tower. The AMA report recommends that the FAA develop and field test a cassette tape recording of radio communications that could be used by AMEs for this purpose. Because no such tape is presently available, and there is a need to rate hearing objectively, hearing standards for all certificate holders should be based on audiometric testing of unaided acuity or on testing of speech discrimination with valid and reliable instruments, such as the phonetically balanced, monosyllabic word list of the Northwestern University Auditory Test No. 6. In this test, pilots would be allowed to set the speakers to which they were listening at the most favorable intensity to maximize their chances of discriminating at least 70% of the words in the list, much as they would adjust the radio in the cockpit to the most favorable level.

Musculoskeletal System

For first-, second-, and third-class certificates:

A. An applicant must have no medical history or clinical diagnosis of the following:

- Quadriplegia
- Hemiplegia or hemiparesis secondary to brain disease, regardless of cause
- Collagen vascular disease with central nervous system involvement
- Progressive neurological disorders

These standards pertain only to severe disorders that clearly limit a pilot's ability to fly an aircraft or that may lead to sudden disturbances of central or peripheral nervous system functioning. For other musculoskeletal disorders in which residual function may be measured accurately, the FAA administers a medical flight test to assess the effects of limited function on the ability to handle an aircraft. The AMA report recommends that the medical flight testing continue. Those pilots whose musculoskeletal impairment is static or well stabilized may be issued a Statement of Demonstrated Ability under the provisions of 14 CFR §67.19(e), which allows for recertification without repeating the medical flight test, unless the pilot's condition improves or deteriorates.

Nervous System

For first-, second-, and third-class certificates:

A. An applicant shall have no established medical history or clinical diagnosis of the following:

- Epilepsy
- A single seizure
- An impairment of consciousness and/or transient loss of control of nervous system function(s) without satisfactory medical explanation of the cause

B. An applicant shall have no other convulsive disorder, disturbance of consciousness or neurological condition that the Federal Air Surgeon finds:

- Makes the applicant unable to perform safely the duties or exercise the privileges of the airman certificate that he or she holds or for which he or she is applying, or
- May reasonably be expected, within two years after its diagnosis, to make him or her unable to perform those duties or exercise those privileges, and the findings are based on case history and appropriate, qualified medical judgment relating to the condition involved.

The recommended standards point out the distinction between the epilepsies, which by definition consist of multiple seizures," and single seizures. The major concern with either epilepsy or a single seizure is the risk it poses for the occurrence of an unexpected seizure sometime in the future. Until recently there were few studies of long-term follow-up of persons who had epilepsy as children or adolescents. Recent studies indicate that seizures recur in 24% to [illegible]% of these individuals and that recurrences may be 16, 18, and 20 years later. The risk of a second convulsion after a single, unprovoked seizure in childhood is also high. Thus, for most seizures of childhood (the exceptions being febrile seizures and benign rolandic epilepsy of childhood), and for other conditions that cause seizure activity, such as adult-onset epilepsy, provoked and unprovoked seizures in adulthood, and seizure activity resulting from trauma, the AMA report recommends that 20 years elapse before certification, during which time the airman must be off all anticonvulsant medications and be free of seizure activity. In addition, the neurological examination, electroencephalogram, and computed tomographic scan or magnetic resonance imaging must be normal at the time of the certification examination.

In 1979 the AMA reviewed neurological and neurosurgical conditions that affect flight safety for the FAA. The 1985 AMA report updates the 1979 report, providing guidance on the increased diagnostic and prognostic capabilities afforded by the new technologies of computed tomographic scanning and magnetic resonance imaging.

Other Organ Systems

At present, disorders of the gastrointestinal system, genitourinary system, and skin are covered under the general standard that the pilot should have "no other organic functional or structural disease, defect or limitation that the Federal Air Surgeon finds . . . makes the applicant unable to safely perform the duties or exercise the privileges of the airman certificate that he holds or for which he is applying." The AMA report gives guidance to the AMEs and FAA on many specific conditions and evaluation techniques. For example, it concludes that the stool guaiac would not be a worthwhile screening examination in the AME setting, in which obtaining six samples to confirm the presence or absence of occult blood would be difficult, and in which a hematocrit determination, which is [illegible]ed, would be of greater clinical value. Similarly, the report also recommends that breast examinations in women and testicular examinations in men be optional, and that pelvic ultrasound or a report of a recent pelvic examination by a female pilot's attending physician suffice to rule out conditions such as an ovarian mass that may undergo sudden torsion and cause incapacitating pain.

Risk Factors

In addition to those risk factors that are discussed above, the AMA report considers other fixed and controllable risk factors that affect aviation safety. For example, a pilot's anthropomorphic measurements are generally fixed. The report recommends that the FAA review its aircraft airworthiness standards (14 CFR Parts 23, 25, and 26), which deal with aircraft design and include standards for cockpit seat dimensions, movement, and arrangement, and strength requirements for manual control, and which are presently formulated largely for a male pilot population.

Obesity is a controllable risk factor, which may have an effect on the cardiovascular system, especially if other risk factors are present, and on a pilot's ability to enter and leave the cockpit quickly and to operate controls. The AMA report recommends that males with a body mass index of 50 or greater and females with a body mass index of 49 or greater be disqualified until that index is reduced.

CONCLUSION

Freedom from impairing disease is a major determinant of safe pilot performance. The FAA's medical standards and certification procedures are established to detect civilian airmen who may have such disease. The AMA believes that its report provides the FAA with a well-reasoned review of current knowledge about medical conditions that affect flight safety and charts a prudent course for potential future FAA regulatory action and changes in its medical certification process.

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MEDICAL WORKLOAD INDICATORS

Mr. COUGHLIN. Last year you estimated that you would process 534,000 airmen's medical certifications and would perform 30,711 physical examinations in fiscal year 1986.

You now indicated that your fiscal year 1986 levels will be 503,700 medical certifications and 23,054 physical examinations. These represent reductions of 6 percent and 25 percent from your original estimates.

What are the reasons for these decreases and how much have they reduced your 1986 program costs by?

[The information follows:]

The decrease in airmen medical certification of 30,300 (534,000 vs. 503,700) represents a reduction in the backlog of cases which was achieved in 1985. The method of determining the number of cases to be processed each year includes an estimate of the number of new cases to be received plus the estimated number of cases that will be on hand from the prior year. We cannot identify any direct program cost impact at this time.

We estimate that we will have requirements to do approximately 30,711 examinations in FY-86; however, the funding level only permits the 23,054 figure. This program has been reduced by approximately $76,570 to stay within the FY-86 funding levels.

MEDICAL DISABILITY RETIREMENTS

Mr. COUGHLIN. Would you update for the record the information on disability retirement rates and separations that was included on pages 446 and 447 of last year's hearing record?

[The information follows:]

DISABILITY RETIREMENT RATES FOR AIR TRAFFIC FACILITIES

Fiscal year	FSS rate/100	Center rate/100	Tower rate/100
1977	2.18	2.96	2.88
1978	1.91	2.61	2.55
1979	1.47	2.47	2.41
1980	1.38	1.37	1.94
1981	.59	.56	.87
1982	.72	.49	.56
1983	.32	.23	.30
1984	.77	.21	.26
1985	.50	.25	.19

MEDICAL DISABILITY SEPARATIONS AND MEDICAL DISABILITY RETIREMENTS—SELECTED AIR TRAFFIC OCCUPATIONS, FISCAL YEAR 1972–85

Fiscal year	Center and Tower	Flight service station
1972	161	43
1973	189	51
1974	76	57
1975	178	115
1976	546	139
1977	613	104
1978	550	93
1979	524	71
1980	363	67
1981	140	28
1982	70	32

MEDICAL DISABILITY SEPARATIONS AND MEDICAL DISABILITY RETIREMENTS—SELECTED AIR TRAFFIC OCCUPATIONS, FISCAL YEAR 1972-85—Continued

Fiscal year	Center and Tower	Flight service station
1983	44	14
1984	39	34
1985	37	22

AIR TRAFFIC CONTROLLER HEALTH PROGRAM

Mr. COUGHLIN. Would you also update for the record the table on page 447 of last year's hearing record showing the total cost of your traffic controller health program?

[The information follows:]

AIR TRAFFIC CONTROLLER HEALTH PROGRAM

The estimated cost of the Air Traffic Control Specialist Health Program for fiscal years 1985, 1986, and 1987 is:

Fiscal year:	*Estimated cost*
1985	$3,968,400
1986	4,201,100
1987	4,985,600

ASAS PLANNING, DIRECTION AND EVALUATION

Mr. COUGHLIN. On page 87, how much of your $16,767,000 request for planning, direction and evaluation is related to the aviation safety analysis system?

[The information follows:]

Eight million dollars is related to ASAS. Of that amount, $1.5 million is used to maintain 360 Burroughs microcomputers located in all Aviation Standards' field offices. The remaining $6.5 million is used for systems engineering support, system development (including programming), test and evaluation, contractual support for total system integration, and system security and training.

ASAS FUNDING

Mr. COUGHLIN. Is this the total amount requested for this system for fiscal year 1987?

If not, would you provide a breakdown of your requested ASAS costs by activity and subactivity?

[The information follows:]

This is the total amount requested for planning, direction, and evaluation for ASAS for fiscal year 1987.

Of the $16,767,000 request for planning, direction and evaluation, $8,000,000 is related to ASAS.

One million, five hundred thousand dollars will be used to maintain 360 Burroughs microcomputers located in all Aviation Standards' field offices. The remaining $6,500,000 will be used for systems engineering support, system development (including programming), test and evaluation, contractual support for total system integration, and system security and training.

CONTRACTUAL SERVICES

Mr. COUGHLIN. On page 88 your justification for your proposed $2.8 million increase for contractual services is rather general.

Can you give us some specifics as to the changes or improvements you expect as a result of this increase?

Mr. **Broderick**. Most of the regulatory activities that we have are related to cost benefit analyses and documentation for regulatory projects.

We will be happy to supply a list of the types of projects we are doing for the record.

[The information follows:]

The proposed increase in contractual services will enable the Aviation Standards organization to expedite critical safety-related rulemaking initiatives such as the amendment and update of operations and maintenance requirements pertaining to rotorcraft, update requirements relating to aircraft simulator use in airmen certification, establishing a recreational pilot certificate, and a review of certification procedures for aircraft products and parts.

Additionally, major on-going safety programs such as the Safety Activity Functional Evaluation (SAFE) will require technical and economic evaluation support to bring them to scheduled completion.

SPECIAL STUDIES

Mr. **Coughlin**. On page 90 you are requesting an increase of $1,968,000 for a number of special studies. Are all of these new efforts in fiscal year 1987?

[The information follows:]

No. The Quality Assurance Study of Accident Reporting, National Airspace Information Monitoring System, and the Quality Assurance Program for Accident Investigation are all new programs. Risk Analysis and Accident Investigation Training Evaluation are ongoing programs inherent to our functional responsibilities. Pilot Medical/Flight Time Analysis, National Airspace System Safety Plan and the Evaluation of Relationship Between Air Carrier Financial Condition and Safety Posture were started in prior years and have a projected completion date.

Mr. **Coughlin**. Would you indicate for the record the estimated cost, purpose, and completion date for each of these?

[The information follows:]

1. Risk Analysis is required to assess the relative risk of flying under a variety of environmental conditions including:

   weather
   age of pilot
   age of aircraft
   recent and total flight time (by make and model)
   type of certificate
   type of operations
   type of flying
   profession of pilot
   IFR, VFR, IMC, or VMC
   day or night flying

2. Pilot Medical/Flight Time Analysis includes the processing coding and analysis necessary to determine the relationship between age, experience, currency and accident/incident profiles. The results are being used in support of the Back-to-Basics program.

3. Accident Investigation Training Evaluation is an ongoing program to enhance and expand the accident investigation courses conducted at the Transportation Safety Institute. Several new courses are being developed and others are being modified to improve the efficiency and effectiveness of the investigators.

4. Quality Assurance Study of Accident Reporting is a new program effort to verify the quality and accuracy of the accident/incident reporting process from the initial accident investigation phase through the finalization and data entry of the report. This is a limited program to be completed in 1987 and phased into the overall Quality Assurance Program for Accident Investigation.

5. National Airspace System Safety Plan. The FAA's National Airspace System Plan for Facilities, Equipment, and Associated Development has been audited by the Systems Engineering and Integration Contractor. As a result of that audit, the Office of Aviation Safety has been assigned the responsibility for validating that all safety hazards/risks identified within the NAS Plan have been satisfactorily reconciled, resolved, or corrected. The contractor will develop an FAA system safety program requirements standard for use by all FAA organizations. The standard is to ensure that safety, consistent with the FAA's mission requirements, is designed into systems, subsystems, equipment, facilities, and their respective interfaces.

6. National Airspace Information Monitoring System. This system is intended to provide the capability to monitor trends in the safety of the National Airspace System using accurate and timely data on near midair collisions, pilot deviations, and operational errors/deviations. Because these trends will be based on preliminary data as well as final investigations, the utility of the data will be immediate although less accurate. In addition, each such event will be tracked "cradle to grave" so that accountability for completing final investigation will be maintained.

7. Quality Assurance Program for Accident Investigation. Industry correspondence and a Flight Safety Foundation special study have identified some weaknesses in the FAA's accident activities. The Accident Investigation Division has initiated a plan to develop a Quality Assurance Program designed to aid in improving FAA's investigative actions and to assure that the FAA's responsibilities have been discharged. Program implementation will involve three major phases: (1) development and approval of a Quality Assurance Plan, (2) a test program, and (3) design and implementation of an automated data acquisition system so that the Accident Investigation Division receives certain information concerning each accident.

8. Evaluation of Relationship Between Air Carrier Financial Condition and Safety Posture. The purpose of this effort is to develop methodologies, tools, and procedures to be used by FAA inspectors to identify air carriers for additional inspection scrutiny on the basis of their financial condition. These methodologies are intended to supplement existing inspection requirements identification procedures. The methodologies will be based on research conducted in the project to identify specific measures of air carrier financial condition that are predictive of air carrier safety posture.

The attached table summarizes the type, cost and estimated completion date of each of these projects.

FY 87 Program Increase	Type Program	FY 1987 Cost ($ in 000)	Estimated Completion Date
Risk Analysis	ongoing	500	
Pilot Medical/Flight Time Analysis	continued	400	Sept. 1988
Accident Invetigation Training Evaluation	ongoing	50	
Quality Assurance Study of Accident Reporting	new	75	Sept. 1987
National Airspace System Safety Plan	continued	275	1990's
National Airspace Information Monitoring System	new/ongoing	500	
Quality Assurance Program for Accident Investigation	new/ongoing	75	
Evaluation of Relationship Between Air Carrier Financial Conditions and Safety Posture	continued	200	Sept. 1987

STATUS OF FY 1986 STUDIES

Mr. COUGHLIN. You also had a large increase in this area in fiscal year 1986. Would you indicate the status of those studies that you funded in fiscal year 1986?

[The information follows:]

Program	Projected FY 86 funding (in thousands)	Actual FY 86 funding (in thousands)
NASA/Aviation Safety Reporting Program	$1,500	$1,500
Administrative/Management Systems	50	*25
Ultralight Program	300	*0
National Airspace System Safety Plan	275	150
Safety Inspection & Surveillance Analysis	700	**700
Benefit/Cost Analysis	200	*144
Cabin Safety Program	100	*72
NTSB Recommendation System	100	*50
FAA Internal Recommendation System	50	*0
Pilot Medical/Flight Time Analysis	200	*85
G/A & A/C Accident Investigation Analysis	300	*230
Airport Safety & Hazard Analysis	300	80
Aircraft & Airmen Risk Analysis	300	300
Air Traffic Flow Analysis	550	discontinued

*Discontinued or reduced due to lack of funds.

**Reprogrammed for Back to-Basics program.

DEVELOPMENT DIRECTION

Mr. COUGHLIN. Turn to development direction. You are requesting 138 positions and $9,031,000 for your development direction activity which you indicate provides for the planning, directing, monitoring and coordinating of your research and development program.

In what ways does the systems engineering contractor support the activities of your development direction staff?

Mr. BLAKE. These activities are separate. The development direction activity provides for the management of staff support for FAA activities related to RE&D programs. Of course, the system integration contract is supporting the NAS plan and NAS plan related RE&D Programs.

Mr. COUGHLIN. They don't work on the same thing?

Mr. BLAKE. SEI is not involved in non-NAS plan RE&D efforts such as aircraft safety, medicare, environmental programs.

ATLANTIC CITY FACILITY

Mr. COUGHLIN. Would you indicate for the record the amount of this activity's request that is related to your technical center?

[The information follows

We have requested 11 positions and $898,000 in Development Direction for the Technical Center.

Mr. COUGHLIN. On page EX-13 the total costs associated with your technical center are estimated to be about $96 million in fiscal year 1987.

What were the two or three most significant accomplishments of this facility during the past year?

Mr. **Blake**. Some of the significant ones are completion of a Host DCP computer testing, regulatory support on the cabin materials test methods development, regulatory support on the dynamic seat test method development, and completion of the engineering evaluation of TCAS-3.

Mr. **Coughlin**. On page 93, you show a decrease of $939,000 resulting from the completion of one-time contracts. What were these contracts for and when were they completed?

[The information follows:]

This was a single contract with Boeing for the development of a comprehensive training program to familiarize pilots with wind shear detection and avoidance. The contract is presently on schedule and will be completed in February 1987.

ENGINEERING AND DEVELOPMENT POSITIONS

Mr. **Coughlin**. Would you update for the record the table on engineering and development positions that was included on page 450 of last year's hearing record?

[The information follows:]

FISCAL YEAR 1987 ENGINEERING AND DEVELOPMENT POSITION DISTRIBUTION BY LOCATION

	Appropriations		
	RE&D	Operations (development direction)	Total
Washington, DC:			
Engineering and development	174	84	258
Systems engineering	16	11	27
Environment and energy		32	32
Atlantic City, NJ, FAA Technical Center	381	11	392
Oklahoma City, OK, Aeromedical Institute	74		74
Total currently authorized positions[1]	645	138	783
Total filled as of March 31, 1986	784	124	908

[1] Fiscal year budget request a transfer of 200 positions from R,E&D to F&E to support NAS plan projects at the technical center

ADMINISTRATION OF AIRPORTS PROGRAM

Mr. **Coughlin**. Turn to administration of airports program.

You are requesting 472 positions and $26,181,000 for administration of your airports program. This is the same number of positions and $705,000 more than your fiscal year 1986 level.

However, on page 85 you indicate that the number of airport grants issued in 1987 is projected to decrease by 21 percent from the fiscal year 1986 level.

With this reduced workload, why isn't your personnel level also decreasing?

Mr. **Donahue**. It must be recognized the grants program represents much less than half the total workload of the airports office. Even with the decrease in the 21—of as much as 21 percent, nonetheless, even with smaller grants, it takes just as many people to work the program.

Mr. COUGHLIN. Last year it was indicated that you planned to complete a staffing standards study for your airports program in March 1986. Was this study completed on schedule? If so, what were the results, and if not, when do you expect it will be completed?

Mr. DONAHUE. No, sir, it was not completed on schedule. It is now scheduled for completion in July 1986.

POSITION BREAKDOWN

Mr. COUGHLIN. Would you update for the record the table on page 452 of last year's hearing record breaking down your positions by activity?

[The information follows:]

The breakdown of Airports program positions for Fiscal Year 1987 estimated by activity is as follows:

Safety programs and engineering standards	228
Airport grants planning and programming	214
Program management and evaluation	23
Airport capacity program	7
	472

ENGINEERING AND SAFETY STANDARDS

Mr. COUGHLIN. Would you also insert in the record a summary on any engineering and safety standards promulgated during the past year?

[The information follows:]

The following engineering and safety standards were issued during FY 1985 (October 1, 1984 through September 30, 1985):

1. AC 150/5345-10E, Specification for Constant Current Regulators and Regulator Monitors—issued 10/16/84.
2. AC 150/5345-1N, Approved Airport Lighting Equipment—issued 2/11/85.
3. AC 150/5100-14A, Architectural, Engineering and Planning Consultant Services for Airport Grant Projects—issued 2/7/85.
4. AC 150/5300-12, Airport Design Standards—Transport Airports, CHANGE 1—issued 3/14/85.
5. AC 150/5200-12A, Fire Department Responsibility in Protecting Evidence at the Scene of an Aircraft Accident—issued 4/8/85.
6. AC 150/5300-9A, Predesign, Prebid, and Preconstruction Conferences for Airport Grant Projects—issued 5/1/85.
7. AC 150/5000-5A, Designated U.S. Airports Serving International Air Traffic—issued 5/16/85.
8. AC 150/5345-28D, Precision Approach Path Indicator (PAPI) Systems—issued 5/23/85.
9. AC 150/5300-4B, CHG 8, Utility Airports—Air Access to National Transportation—issued 7/3/85.
10. AC 150/5345-1P, Approved Airport Lighting Equipment—issued 7/19/85.
11. AC 150/5345-27C, Specification for Wind Cone Assemblies—issued 7/19/85.
12. AC 150/5370-12, Quality Control of Construction for Airport Grant Projects—issued 9/6/85.
13. AC 150/5100-16, Airport Improvement Program Grant Assurance Number One-General Federal Requirements—issued 7/22/85.
14. AC 150/5070-6A, Airport Master Plans—issued June 1985.

The following engineering and safety standards were issued during FY 1986 (October 1, 1985 through Present):

1. AC 150/5190-1A, Minimum Standards for Commercial Aeronautical Activities on Public Airports—issued 12/16/85.
2. AC 150/5200-18A, Airport Safety Self-Inspection—issued 12/18/85.
3. AC 150/5360-12, Airport Signing and Graphics—issued 12/23/85.

4. AC 150/5220-4A, Water Supply System for Aircraft Fire and Rescue Protection—issued 12/11/85.
5. AC 150/5345-1Q, Approved Airport Lighting Equipment—issued 1/3/86.
6. AC 150/5345-17B, Standby Power for Non-FAA Airport Lighting Systems—issued 1/6/86.
7. AC 150/5230-4, CHG 1, Aircraft Fuel Storage, Handling and Dispensing on Airports—issued 2/20/86.
8. AC 150/5200-23A, CHG 1, Airport Snow and Ice Control—issued 2/26/86.
9. AC 150/5340-27A, Air-to-Ground Radio Control of Airport Lighting Systems—issued 3/4/86.
10. AC 150/5210-14, Airport Fire and Rescue Personnel Protective Clothing—issued 3/12/86.
11. AC 150/5100-14A, CHG 1, Architectural, Engineering and Planning Consultant Services for Airport Grant Projects—issued 4/16/86.

FUELING RESPONSIBILITIES ON AIRPORTS

Mr. COUGHLIN. What is the status of your notice of proposed rulemaking to change 14 CFR part 139 related to fueling responsibilities on airports?

Mr. DONAHUE. As you know, that NPRM was issued about in January, I believe. We have about 140 responses; we have looked at over 100 of them, and we expect to have a rulemaking issued by November 1 this year.

ONE-TIME CONTRACTS

Mr. COUGHLIN. On page 96 you show a decrease of $960,000 resulting from the completion of certain one-time contracts. Would you provide a brief explanation of these contracts for the record?

[The information follows:]

These projects were sponsored by our new Airport Capacity Program Office. They support the Airport Capacity Task Forces, the publication of the Airport Capacity Enhancement Plan, and the enhancement and validation of the Simulation Model (SIMMOD) Airspace Model 1. All these projects are related to the analysis of capacity problems and the promotion of efforts to increase airport capacity.

TEST CONSTRUCTION INSPECTION PROGRAM

Mr. COUGHLIN. Last year it was stated that you were reviewing the results of your 1984 test construction inspection program that was completed in your southern region. What actions have you taken as a result of this review?

Mr. DONAHUE. We have considered alternatives such as relying on certification by sponsors that construction specifications have been met or initiating an in-depth training program for contract personnel. We have concluded that neither approach is feasible.

Certification only amounts to an affirmation by the engineer that he or she has accomplished the job that was required to be done, while in-depth training of contract personnel would put increased demands on FAA resources. We intend to continue monitoring construction with in-house personnel.

AIRPORT CAPACITY PROGRAM OFFICE

Mr. COUGHLIN. On page 97, would you elaborate on the need for your requested increase of $1.25 million for your airport capacity program office?

[The information follows:]

Although total aviation system delays were significantly reduced in 1985 from 1984 peak levels, airport-volume delays were still 25% above 1983 levels. Commercial passenger enplanements are projected to increase from 350 million in 1984 to over 600 million in 1997, with a 60% increase in total aircraft operations during the same period. The Airport Capacity Program Office (ACPO) will coordinate all FAA capacity enhancement programs including new airspace procedures, equipment and airport development. ACPO will also sponsor specific airport capacity task forces, capacity planning computer model development and production of annual airport capacity enhancement plan. These increases are offset by a corresponding decrease in the Headquarters Administration activity.

HUMAN RESOURCE MANAGEMENT

Mr. COUGHLIN. Under human resources management, you are requesting 1,295 positions and $205,343,000 for human resources management. On page 99 you show an increase of about 7,000 or 30 percent, student enrollments in your centralized training program.

However, on page 101 you indicate that your full-time equivalent staff for this activity will decrease by 85 FTEs, or about 12 percent.

Would you explain this? Have you previously had too many staff at your training facility?

Mr. WEITHONER. No, we will decrease the civil service staff and increase the contractors, and they don't show up in the FTE count.

Mr. COUGHLIN. If, as you indicate on page 99, you have 3,487 air traffic students in initial qualification courses, this will be more than any year except fiscal year 1982 and will be nearly double the fiscal year 1984 level when your centralized training staff was considerably larger.

How carefully have you reviewed your ability to properly train these new air traffic controllers?

Mr. WEITHONER. We think we have reviewed it carefully. We have to reconfigure labs, and add contract instructors, but both the staff and contractor have had experience and we are confident of our ability to do it.

CENTRALIZED TRAINING

Mr. COUGHLIN. Would you update for the record the table on centralized training costs included on page 455 of last year's hearing record?

[The information follows:]

[In millions of dollars]

	Fiscal year—			
	Actual		Estimate	
	1984	1985	1986	1987
Air traffic training	31.9	36.9	41.1	49.3
Airway facilities training	25.9	21.5	25.1	27.4
Aviation standards training	14.9	16.4	19.7	22.7

[In millions of dollars]

	Fiscal year—			
	Actual		Estimate	
	1984	1985	1986	1987
Airports/logistics training	.8	.8	.6	.9
Management/general training	5.2	6.3	3.6	4.1
Program direction and management	9.8	9.2	9.4	[1] 12.4
Total	88.5	91.1	99.5	116.8

[1] Includes $3.0 million in centralized training activities which were funded by the headquarters administration appropriation in fiscal year 1986 and preceding years.

CONTROLLER TRAINING

Mr. **Coughlin**. Would you also update for the record the table on page 456 of last year's hearing record regarding controller training?

[The information follows:]

AIR TRAFFIC CONTROLLER INITIAL QUALIFICATION TRAINING ENROLLMENTS AND COMPLETIONS, FISCAL YEAR 1976–87 [1]

	Number of students who	
	Enrolled	Completed
Fiscal year:		
1976	793	768
1977	1,871	1,420
1978	1,772	1,176
1979	1,912	1,276
1980	1,179	654
1981	1,193	406
1982	5,643	3,012
1983	3,062	2,327
1984	1,888	1,044
1985	2,228	1,268
1986 (estimated)	1,872	1,115
1987 (estimated)	2,983	1,775

[1] Enrollments reflect number who began FAA Academy training during each fiscal year.
Completions reflect number who successfully completed FAA Academy training during each fiscal year.
Enrollments in classes which began late in a given fiscal year appear as completions (if student successfully completes training) in the subsequent fiscal year.

AIRWAY FACILITY TRAINING

Mr. **Coughlin**. Your airway facilities maintenance staff has been decreasing for several years and is projected to continue to drop.

However, your airway facility student enrollments is estimated to nearly double from fiscal year 1985 to 1987. What is the reason for this?

Mr. **Weithoner**. It is because we have so many different kinds and so large a volume of new equipment being delivered to the field. The technicians out there have to be brought in and trained on how to maintain the new equipment.

NAS PLAN EQUIPMENT

Mr. COUGHLIN. Would you indicate for the record the NAS plan equipment installations this increase relates to and tell us when this equipment is scheduled to be operational?

[The information follows:]

Equipment	*Scheduled [1] operation*
Host computer system	11/86
MODE-S (radar beacon system)	6/88
ASR-9 radar system	6/87
Microwave landing system [MLS]	6/87
Automated radar terminal system, model 2A	3/87
Digital bright radar display [DBRITE]	10/87
Doppler VHF omnirange [DVOR]	(²)
Radar microwave link replacement [RML/RCL]	6/86
Runway end identifier lights [REIL]	(²)

[1] Scheduled operation is the date the first operational facility is commissioned and placed into service.

[2] These facilities are already operational, but are being improved or replaced with new equipment.

COVERAGE COST PER TRAINING PROGRAM

Mr. COUGHLIN. Would you indicate for the record the average cost per enrollment for each of the training program areas listed on page 99?

[The information follows:]

Fiscal year 1986 average cost per enrollment

Training program	*Amount*
Air Traffic	$7,060
Airway Facilities	3,809
Aviation Standards	4,813
Airports/Logistics	896
Management/General	857

NOTE.—Amounts shown exclude nonallocable indirect costs of small administrative staffs in the regions, centers, and FAA Academy (about 5 percent of the centralized training budget).

Mr. COUGHLIN. Would you also provide for the record a breakdown of your fiscal years 1986 and 1987 other objects costs for your centralized training activity?

[The information follows:]

FY 1986/87—OTHER OBJECTS

[In thousands of dollars]

Funding category	1986 estimate	1987 request
Training travel	30,186	39,431
Instructional services contracts	17,355	21,544
Out-of-agency training (contracts)	14,374	17,620
CBI services and support	2,334	2,428
Miscellaneous	909	1,517
All other objects	2,748	3,038
Total	[1] 67,906	85,578

[1] Includes $1,459 in centralized training other objects which is funded from the Headquarters Administration appropriation in FY 1986

MANAGEMENT TRAINING SCHOOL RELOCATION

Mr. COUGHLIN. On page 102, how soon do you anticipate relocating your management training school?

Mr. WEITHONER. The best guess is summer 1987. There is a protest pending on procurement of that site and that may cause a problem. July or August of 1987, though.

Mr. COUGHLIN. Last year it was indicated that the total cost for this school, including instructors, would be $4.4 million. What is the estimate for fiscal year 1987?

Mr. WEITHONER. Four point one million.

A-76 STUDIES

Mr. COUGHLIN. On page 103, what activities are you conducting A-76 studies on and what is the status of these A-76 reviews?

Mr. WEITHONER. It is the instructor workload, the provision of instructors to conduct the courses, and those A-76 reviews are just getting started within the next couple of months.

CONTROLLER CONTRACTUAL TRAINING

Mr. COUGHLIN. On page 104 you are requesting increases amounting to $4 million for contract instructional services for air traffic controllers training. Who provides this contractual training?

[The information follows:]

This training is provided by the University of Oklahoma.

INSPECTOR FLIGHT TRAINING TUITION

Mr. COUGHLIN. You are also requesting an increase of $2.1 million for flight training tuition for aviation safety inspectors. Who provides this training?

[The information follows:]

This flight training is provided by air carriers, commuter airlines, approved flight training schools, and aircraft manufacturers.

HUMAN RESOURCE MANAGEMENT

Mr. COUGHLIN. You are requesting 454 positions and $87,563,000 for labor, personnel, and human relations. This appears to be a new subactivity.

Would you provide for the record a breakdown of these 454 positions, including their function and location (D.C. or region) as well as the activity under which funding was requested in fiscal year 1986?

[The information follows:]

In FY 1986, the 454 positions were previously in two separate appropriations (Operations and Headquarters Administration) under the Direction, Staff and Supporting Services (DS&SS) Activity. They were broken down as follows:

OPERATIONS APPROPRIATION, DS&SS ACTIVITY

Region	Total FY 1986	Labor Relations Subactivity	Personnel Management Subactivity
Alaskan	18	2	16
Central	19	4	15
Eastern	48	6	42
Great Lakes	35	7	28
New England	17	3	14
Northwest Mountain	32	4	28
Southern	45	6	39
Southwest	35	6	29
Western-Pacific	41	7	34
Aeronautical Center	59	6	53
Technical Center	18	4	14
Subtotal	367	55	312

HEADQUARTERS ADMINISTRATION APPROPRIATION DS&SS ACTIVITY

Location	Total FY 1986	Labor Relations Subactivity	Personnel Management Subactivity
Washington, D.C.	87	13	74
Overall total	454	68	386

OWCP PAYMENTS

Mr. COUGHLIN. On page 106 you are requesting $64,554,995, an increase of $5,240,807 for payments to the Department of Labor for employee compensation.

Last year it was indicated that there would be a decline in the cost of this program in subsequent years.

It has also been indicated that the number of OWCP recipients has been declining since 1980.

In view of this prior testimony, why do you need more than a $5 million increase?

Mr. WEITHONER. The number of recipients actually stayed steady, which means that the budget years of 1986 and 1987, reflect bills to be presented to us by the Department of Labor for expenses incurred in fiscal years 1984 and 1985.

The Department of Labor indicates the principal reasons for the increases are, one, the cost of living adjustment for people who are receiving payments; two, an increase in the cost of medical care; and three, and probably the most important factor, in fiscal year 1985 they were working down a huge backlog of cases, so 1985 was an unusually large year. These are the costs showing up in the 1987 budget.

Mr. COUGHLIN. Would you insert in the record the number of personnel your budget assumes will be receiving payments under this program in fiscal years 1986 and 1987?

[The information follows:]

FAA projects the following OWCP recipient payment activity:

Fiscal year:	*Number of recipients*
1986	3,100
1987	3,150

EMPLOYEE INVOLVEMENT PROGRAM

Mr. COUGHLIN. Would you elaborate for the record on the need for your requested increase of $397,000 for contractual services for your employee involvement program?

[The information follows:]

The Employee Involvement Program (EIP) is a joint effort by the Professional Airways Systems Specialists (PASS) and FAA Management to improve labor/management relationships between supervisory and nonsupervisory airway facilities employees. Third-party intervention by an outside contract consultant is vital in the implementation stages at each location where the program is instituted. The outside contractor consultant works closely with management and union officials to help them build relationships and work together to resolve work related problems. The EIP effort is in place at two demonstration sites in the Eastern Region and has been very successful thus far. The requested $397,000 is for contractual services to expand the program into other facilities and regions.

DIRECTION, STAFF AND SUPPORTING SERVICES

Mr. COUGHLIN. You are requesting 1,005 positions and $72,027,000 for direction, staff, and support services.

Would you provide for the record a breakdown of your requested 1,005 positions, and also reconcile this number with the 1,410 position breakdown included for this activity on page 459 of last year's hearing record?

[The information follows:]

Following is a breakdown of the Direction, Staff and Supporting Services Positions:

	1986 column of 1986 budget	1986 column of 1987 budget
Subactivity:		
Direction and management	97	84
Communication control	47	49
Accounting	395	378
Budget	84	81
Civil Rights	43	42
International aviation	12	12
Labor relations	55	0
Legal	83	86
Management/data systems	232	230
Personnel management	309	0
Public affairs	28	25
Aviation policy and plans	25	18
Total, direction, staff and supporting services	1,410	1,005

The 1987 Congressional justification proposes to merge the Headquarters Administration appropriation with the Operations appropriation, establishing a Human Resource Management activity. The major change between the 1,410 FTP positions shown in the 1986 Congressional justification and the 1,005 FTP positions shown in the 1987 Congressional justification for Direction, Staff and Supporting Services is the transfer of 309 personnel management and 55 labor relations positions to the Human Resource Management activity. Delegations of authority account for the minor remaining differences.

Mr. **Coughlin.** Would you indicate for the record the status of your information resources management plan?

[The information follows:]

We anticipate issuing the fourth iteration of the FAA Information Resources Management (IRM) Plan in October 1986. The fiscal year 1986-90 version of the Plan was expanded to include the required new obligational authority estimates by project. Planned for inclusion in the strategic overview (Volume I) of the fiscal year 1987-91 Plan is a chapter on Records Management and its relationship to the IRM process.

Funding difficulties have halted any new fiscal year 1986 IRM initiatives from beginning as scheduled and the continuation of prior year initiatives has also been negatively impacted. The overall result is a general deferral and cancellation of many IRM efforts contained in the current plan.

Mr. **Lehman.** Thank you, Mr. Coughlin.

We will adjourn the hearing now until 10:00 Monday morning. Keep the system safe for the weekend.

MONDAY, APRIL 21, 1986.

Mr. **LEHMAN**. The Subcommittee will come to order.

In accordance with the Rules of the House of Representatives and the Committee on Appropriations, without objection, we will permit television and broadcasting coverage of today's hearing.

This morning, we will resume hearing testimony on the fiscal year 1987 budget request for the Federal Aviation Administration. We will begin this morning with questions on headquarters administration.

Welcome back, Admiral Engen. Are there any comments you would like to make at this time before we start questions?

NEED FOR INCREASED SECURITY

Admiral **ENGEN**. I just have one thing that I would bring up at this time. It is a pleasure to be back before you and testifying about our budget request for fiscal year 1987.

I would like to submit for the record an editorial that was written for the Miami Herald on Sunday, April 20. The author is Chairman Lehman, but I would like to submit it for the record. I would like it to be in the record.

It emphasizes the need for increased security, and the constant vigilance on the part of the FAA as we are working together to improve security for the public.

It is a good editorial, and what you saw on your recent trip through Europe. I believe it is very positive, and I would like to submit it for the record.

[The information follows:]

[From the Miami Herald, Apr. 20, 1986]

WE FACE AN OMINOUS THREAT TO AIR SAFETY

(By William Lehman [1])

The biggest challenge and most immediate problem facing both the Federal Aviation Administration and the U.S. aviation industry today are matters once taken for granted by most people—the safety and security of the traveling public.

The potentially tragic consequences of safety problems associated with a continued shortage of air traffic controllers and competitive pressures to cut costs—including maintenance costs—have been well publicized. However, the recent explosion on board a TWA flight landing in Athens and the shoot-outs last December in Rome and Vienna present a third, even more ominous threat to air safety—vicious and indiscriminate terrorist attacks on international airports and flights.

U.S. airports and domestic flights have not yet been targets of such terrorist acts. According to FAA statistics, in 1985 only 10 percent of all major criminal acts in civil aviation worldwide occurred in the United States, while 63 percent occurred in Europe, Africa and the Middle East, and 27 percent in the rest of the world.

Yet air terrorism is not just someone else's problem, and we cannot expect that a few thousand miles will keep U.S. airports and airlines immune from attack. Last month, our ambassador in Rome, Maxwell Rabb, described to me the problem of terrorism as both warfare and an epidemic disease. It is a different kind of safety problem that demands special attention.

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[1] Congressman William Lehman, chairman of the House Transportation Appropriations Subcommittee and a Miami Democrat, led a congressional delegation to Europe March 21-April 2 to study security at major airports that have been the scene of terrorist incidents. A scheduled visit to Athens was canceled because of Libya's March 24-25 attacks on U.S. naval forces in the Gulf of Sidra. The Defense Department strongly recommended that the delegation's military airplane not land in Athens without a fighter escort. The delegation received word while flying to the United States that a bomb had exploded on a TWA flight landing in Athens. He wrote this article for The Herald.

For many years, our FAA has maintained an office in Brussels to support the security needs of U.S. aviation in Europe, Africa and the Middle East and to perform other vital aviation missions. In 1982, only three people were assigned to Brussels to cover anti-terrorism and airport security. That number is now 13.

I went to Brussels to meet with our FAA security people to find out what European airport authorities are doing to counter the terrorist dangers already prevalent there. Accompanied by U.S. security specialists, I inspected anti-terrorism security and met with frontline officials at five European airports.

I found security measures in the airports I visited more comprehensive and extensive than what I have observed in my travels in the United States and in similar security inspections at American airports.

Each airport employs different measures tailored to meet its own particular security needs. For example, Brussels is concerned as much with arriving passengers as with departing ones due to the significant numbers of travelers arriving from relatively unsecured airports in the Middle East and Africa.

The luggage arriving from these unsecured airports is carefully examined by X-ray machines. Personal searches of travelers are conducted in "sterile" zones that prevent passengers from suspect airports from mixing with other passengers or gaining access to departing planes.

At Leonardo da Vinci airport in Rome, the floor of the TWA and El Al departure areas still shows bullet scars from last December's attack. Now, armed military personnel patrol every area of the airport and armed guards are stationed at each entrance. Plainclothes policemen mingle with passengers throughout the terminal. After 11 p.m., all non-airport personnel are removed in a massive sweep by security personnel.

From the roof of the airport, we watched the arrival of an El Al plane. Before it landed, military helicopters patroled the landing path and the grounds below. After the plane touched down, armed vehicles accompanied it to a distant taxi ramp and slowly circled around as it parked. When the passengers deplaned, they were bused to the main terminal under the watchful eyes of armed escorts.

In Yugoslavia, I made an unannounced, surprise 7 a.m. visit to the Dubrovnik airport to witness the departures of Pan Am and Yugo National Airlines flights. These airlines pulled their baggage wagons right up to the boarding ramps and each passenger had to touch his bag before ascending the stairs to enter the plane. Baggage that was not identified in this manner was not loaded on the plane but was taken to a secure area for X-ray and physical inspection. All baggage was monitored by television from the moment it was checked in to ensure that no bags or parcels were slipped into the flow of baggage already checked.

West Berlin's Tegel Airport is located in the French sector and is therefore operated by the French. It presents some special security problems. First, West Berlin's economy depends heavily on guest workers from Yugoslavia, Turkey and other volatile areas. Second, almost any foreigner arriving in East Berlin can routinely cross the border into the sanctuary of West Berlin.

In view of these circumstances, exhaustive background checks of personnel are considered key elements to security at Tegel. Job eligibility at the airport is contingent on a minimum of five years German residency without a police record or other questionable behavior.

HEADQUARTERS ADMINISTRATION

Mr. LEHMAN. Thank you very much. I was impressed with the quality and dedication of your people and appreciate the cooperation they gave us during these visits.

We will start off, as I said, with the headquarters administration.

You are requesting 507 positions and $34,913,000 for headquarters administration. On page 113, why were your labor relations and personnel management offices moved from your headquarters administration appropriation?

Mr. GOLDMAN. The Headquarters Administration appropriation in this year's budget has been eliminated and placed as an activity under the Operations appropriation.

Also, in that appropriation is a human resource management activity. Those particular functions, labor relations, and personnel, were shifted into the human resource management activity.

Mr. Lehman. Do you think they would be more effective there, as far as morale is concerned?

Mr. Goldman. There is better control. Responsibility and guidance for all of the human resource management activities are placed under a single associate administrator.

POSITIONS BY OFFICE

Mr. Lehman. Would you provide for the record a breakdown, by office, of your fiscal year 1986 and 1987 positions, your current employment and estimated end-of-year employment for fiscal years 1986 and 1987?

[The information follows:]

	Fiscal year—	
	1986	1987
Direction and management	68	74
Communication control	25	25
Accounting	66	66
Budget	45	45
Civil rights	13	13
International Aviation	21	21
Legal	81	81
Management systems	56	56
Data systems	43	43
Public affairs	29	29
Aviation policy and plans	54	54
Total, headquarters administration	501	507

Employment as of March 31, 1986, was 471. Employment is estimated to be 475 for September 30, 1986, and 482 for September 30, 1987.

IMPACT OF GRAMM-RUDMAN-HOLLINGS

Mr. Lehman. On page 114, you are requesting an increase of $1.39 million to restore the Gramm-Rudman-Hollings reductions in fiscal year 1987. However, you did not request a fiscal year 1986 headquarters administration supplemental to restore the Gramm-Rudman-Hollings reduction.

What impact will Gramm-Rudman-Hollings have on your headquarters administration appropriations activities in fiscal year 1986?

Mr. Goldman. The main impact is a cutback in the number of contracts that we had planned for the information resource management activity in that account. We can afford to do that this year. I don't believe we can afford that kind of constraint in fiscal year 1987.

Mr. Lehman. No furloughs?

Mr. Goldman. We do not feel that we will have to furlough at this time in this activity.

Admiral Engen. Provided that the supplemental is coming.

Mr. Goldman. It is key that we receive the supplemental.

Mr. Lehman. In other words, if the supplemental doesn't go through, the whole thing comes unraveled?

Mr. Goldman. Yes, sir.

Mr. **Lehman**. Put something in the record indicating how you are going to accommodate this cut.

[The information follows:]

In order to accommodate the Gramm-Rudman-Hollings reductions, certain contracts, such as Information Resource Management Program contracts, have been deferred; however, this constraint on contracts cannot be continued into FY 1987 without adversely affecting programs.

FURLOUGHS

Mr. **Lehman**. Will furloughs be required in fiscal year 1986 as a result of Gramm-Rudman-Hollings? If not, why can't you live without this restoration in fiscal year 1987?

[The information follows:]

As a result of G-R-H, a transfer of 2% from HA to Operations would be necessary to mitigate the funding shortfall which would adversely affect those functions directly related to safety. If this transfer occurs, then a furlough of HA employees will be necessary. If a sufficient Operations supplemental is appropriated, then a furlough of HA employees will no longer be necessary.

OTHER SERVICES

Mr. **Lehman**. Last year, it was indicated that your headquarters administration other services request for fiscal year 1986 was $26.18 million. According to this year's justification, the fiscal year 1986 amount for other services will be $12.9 million. What accounts for this more than 50-percent reduction?

[The information follows:]

Other services for the HA appropriation were not reduced in FY 1986. For comparability, this year's justification reflects in FY 1986 the merger of HA into Operations. Certain other services costs, such as some ADP and IRMP costs, were realigned to DS&SS activity because they were associated with non-headquarters locations.

ASSOCIATE ADMINISTRATOR FOR AIR TRAFFIC

Mr. **Lehman**. You indicate, page 115, that you are establishing an Associate Administrator's Office for Air Traffic. According to the organizational chart included in last year's justification, you had an Associate Administrator for Air Traffic.

Would you explain how this new office will differ from the one you included in your fiscal year 1986 justification?

[The information follows:]

The establishment of an office for the Associate Administrator for Air Traffic was proposed for the Headquarters appropriation in FY 1986. Funds, however, for this function were not transferred until the FY 1987 budget submission.

This is not a new office. The transfer was made to make this office consistent with all other associated level offices within the FAA.

OFFICE OF INTERNATIONAL AVIATION

Mr. **Lehman**. Last year, you had 21 positions assigned to your Office of International Aviation. What was the most significant accomplishment of this Office during the past year?

[The information follows:]

During the past year revitalization of the FAA's international program, with a special emphasis on strengthening international aviation safety, was a major agency goal. FAA substantially increased its joint work with counterpart aviation authorities around the world, with special emphasis on Asia, Latin America, and the Middle East.

FAA has revitalized technical assistance activities provided to developing countries, including activities with China, Spain, Argentina, Turkey, Colombia, Honduras, Ecuador, etc., plus training of over 40 international students through FAA. FAA also substantially improved technical interchanges with the major aviation manufacturing states, such as the U.K., France, Canada and Japan.

FAA has developed an educational seminar on a broad range of technical aviation safety areas for use with foreign civil aviation authorities aimed at improving international aviation safety—seminar participants included Directors General of Civil Aviation from 13 Latin countries and 11 Asian nations. FAA has also sponsored joint conferences to cover the aviation safety needs and requirements of different parts of the world, which has been received enthusiatically by U.S. industry.

We have formulated an international strategic plan that gives a policy focus to all of the FAA's many activities in international aviation safety.

We have strengthened policy formulation for the United States Government for use at the International Civil Aviation Organization (ICAO)—the U.S. initiative as a result of the shooting down of Korean Air Lines 007 and subsequent ICAO condemnation of the USSR action is a visible example.

Following the hijacking of TWA 847, the United States led efforts at ICAO to completely revise and strengthen Annex 17 governing aviation security; FAA was a principal driving force behind the technical solutions now being adopted by ICAO member states.

TORT CLAIMS

Mr. LEHMAN. Last year, it was indicated that you had 1,300 tort claims arising out of aircraft accidents pending against the United States, and over $10 billion in damages was being sought in these cases. What is the current situation involving tort claims?

Mr. ELLETT. As of the last time we checked this, which was approximately a month ago, there were over 3,000 combined claims and complaints with a total exposure exceeding $41 billion. That is not as of today, and we will provide an accurate statement for the record.

[The information follows:]

Currently there are forty-three (43) claims pending adjudication. The total amount demanded exceeds $15 billion.

AIR TRAFFIC CONTROLLER SUITS

Mr. LEHMAN. Is there any way FAA employees can be personally liable for these claims?

Mr. ELLETT. That is correct, we do on a frequent basis have air traffic controllers who are sued personally.

Mr. LEHMAN. How do you protect them?

Mr. ELLETT. We provide counsel, generally with the Department of Justice counsel, but they have personal exposure in each of these cases.

Mr. LEHMAN. Of course, anybody can sue anybody, but have any judgments ever been levied against an individual member of your organization, and has that claim ever been collected?

Mr. ELLETT. With respect to the controllers, I do not believe so, but I would like to check and provide that for the record.

[The information follows:]

Over the years there have been six cases where FAA employees, all air traffic controllers or flight service station specialists, have been named as individual defendants. In no case, has an adverse judgment been entered against an FAA employee.

Mr. **Lehman**. Mr. Engen.

Admiral **Engen**. Mr. Chairman, where somebody in the government was culpable, and took some action with contempt, it would be of very grave concern to me, and they would have to answer for his or her own actions.

Generally speaking, the air traffic controller, I will key on that facet of the FAA right now, provides a service to the traveling American public, and he or she does this in a very professional way. I will do everything I can to ensure that the FAA stands up for its employees, and I am not about to have the controllers feel they should operate out of fear.

Mr. **Lehman**. I am trying to put them in the same position as a surgeon who goes into the operating room. The climate in this country now is liability-oriented.

I am trying to find out if I was a controller and somebody wanted to sue not only the FAA, but me as an individual controller, what protection I would have against a judgment being applied against me. Would the controller have to have liability insurance if he worked in the tower?

Mr. **Ellett**. I believe, if the claim were a personal claim against the individual who is acting in this capacity as an officer of the United States, then presumably the Department of Justice would both defend and indemnify.

In the case of a malicious or wanton act, I don't think the government would, so that would always be a question of fact.

Mr. **Lehman**. In other words, if the controller was really criminally negligent in some manner, then he would have to take the heat?

Mr. **Ellett**. That is correct.

Mr. **Lehman**. I think this might be a problem that may surface some time in a way that would be most unfortunate for the system.

Admiral **Engen**. Thank you, sir, I appreciate your interest.

Mr. **Lehman**. To what extent does your Office of Chief Counsel litigate these cases?

[The information follows:]

The Office of the Chief Counsel's Litigation Division is very active in the litigation of Tort claims cases, although the Department of Justice (DOJ) does retain primary responsibility. The Department of Justice retains most of the cases in its Torts Branch, Aviation and Admiralty Section. However, not infrequently, these cases are delegated to various U.S. Attorney's Offices.

Throughout the discovery phase of each case, FAA Litigation Division attorneys share the workload with DOJ attorneys on a nearly 50-50 basis, with depositions of all FAA employees being conducted by FAA attorneys. In cases assigned to a U.S. Attorney's Office, it is not unusual for a FAA attorney to shoulder 50 percent or more of the discovery workload. When cases go to trial, there is usually an agreed upon division of labor between FAA and DOJ attorneys, dependent upon a number of factors, including the discovery involvement of each and overall experience levels.

SETTLEMENTS OF CLAIMS

Mr. **Lehman**. Of the cases closed in 1985, how much did the government have to pay?

Mr. **Ellett**. We will provide that for the record, if we might?

[The information follows:]

During FY 1985, a total of thirty-five (35) cases were closed either by settlement or by judgment. Each case may have involved one or more claims or complaints.

The total amount demanded in those cases was $165,933,859 and the total amount paid was $6,691,910.

Mr. **Lehman**. Would you provide a listing of these cases for the record and indicate the amount sought and amount paid?

[The information follows:]

Listed below are the thirty-five (35) cases closed in FY 1985:

Date	Accident location	Amount demanded	Amount paid
07/12/78	Fairbault, MN	$20,000,000	$4,800,000
10/25/78	San Juan, PR	750,000	20,000
02/24/79	Memphis, TN	250,000	150,000
08/04/79	W. Palm Beach, FL	3,500,000	160,000
10/03/79	Bethehem, CT	2,115,000	0
12/11/79	Houston, TX	100,000	4,000
12/16/79	Mansfield, OH	1,000,000	0
01/12/80	San Francisco, CA	1,200,000	0
01/19/80	Las Vegas, NV	4,200,000	0
05/25/80	Centralia, WA	433,000	0
10/07/80	Atlanta, GA	529,697	375,000
10/14/80	Pontiac, MI	35,000,000	0
10/21/80	Groton, CT	16,000	5,000
11/26/80	Jacksonville, FL	5,000,000	0
12/22/80	Bahrain, Saudi Arabia	1,200,000	0
02/19/81	Pontiac, MI	5,000,000	0
04/21/81	Gorst,WA	10,000,000	0
05/28/81	Elizabethton, TN	7,300,000	0
06/24/81	Van Nuys, CA	7,161,418	397,700
09/13/81	Cape Yakataga, AK	4,000,000	0
09/23/81	Teterboro, NJ	2,519,134	395,500
10/01/81	Felts, OK	27,000,000	0
11/21/81	Warrenton, VA	1,005,000	0
01/13/82	New York, NY	596,609	350,000
01/27/82	Marvin County, CA	10,000,000	0
02/11/82	Nome, AK	250,000	25,000
03/02/82	Offshore Cameron, LA	10,000	0
04/15/82	Tulare, CA	5,000,000	0
06/30/82	Roanoke, TX	250,000	0
09/04/82	San Juan, PR	265,000	0
02/11/83	San Juan, PR	2,250,000	0
03/05/83	San Valley, CA	1,010,000	0
05/24/83	Canon City, CO	2,000,000	0
07/01/83	Dayton, OH	21,830	9,710
07/20/83	Cleveland, OH	5,000,000	0

COMMUNICATION CONTROL

Mr. **Lehman**. Last year, you had 24 positions assigned to communication control. What are the responsibilities of these personnel?

[The information follows:]

These personnel provide 24 hour, 7 days-a-week communications support services to the FAA headquarters and regions, such as providing communications to and from top management in emergency situations, maintaining current information on status of air transportation security emergencies, monitoring selected communications media and alerting key officials of significant items, assisting in aircraft accident notification of National Transportation Safety Board officials.

MANAGEMENT AND DATA SYSTEMS PERSONNEL

Mr. LEHMAN. Would you indicate for the record the major activities of your management systems and data systems personnel during the past year?

[The information follows:]

Personnel involved in management systems and data systems perform a wide variety of activities which for the most part remain relatively unchanged from year to year. Some of the more important management systems activities include: direction and support of national programs for mail, printing, libraries, directives, forms, records, reports and micrographics; development of national staffing standards; publications and statistics on aviation activity and environment; general management and industrial engineering studies related to in-house issues; support to top management as an internal consultant. Management systems also encompass activities related to many of the OMB Circulars and Bulletins. Some of the more important data systems activities include: overall direction of the Information Resources Management Plan; acquisition and maintenance of ADP hardware and software; development, maintenance and operational support of national and local management information systems; and the overall administration of data processing and word processing resources agencywide excluding ADP for the real time air traffic control operations.

OFFICE OF PUBLIC AFFAIRS

Mr. LEHMAN. Would you also indicate for the record some workload data for your Office of Public Affairs?

[The information follows:]

The Office of Public Affairs has three divisions: Public and Employee Communications, Community and Consumer Liaison, and Plans and Audio-Visuals. In addition, the office has responsibility for the agency's Aviation Education Program, and the agency historian. Both report as staff directly to the Assistant Administrator of Public Affairs.

The Public and Employee Communications division receives and replies to news media queries from around the country. The division receives about 50 calls daily. Some can be answered readily, but others require the person receiving the call to check around the agency to obtain the information. In addition this office prepares agency news releases and other informational written documents that are used to disseminate information about rule makings, changes in agency policies and procedures, advisory circulars or any item of interest and importance to the public.

The Community and Consumer Liaison division handles between 15,000 and 16,000 inquiries yearly for agency technical and other publications from industry and the general public. This division also is responsible for the agency's Freedom of Information Program, receiving FOIA requests, sending them to appropriate offices for response, and tracking them. The division also receives about 1,500 consumer complaints yearly, and sees that every one is answered.

The Plans and Audio-Visuals division is responsible for public affairs planning and regional coordination. It also is responsible for overall management of audiovisual materials. These include videotapes and films on aviation safety, including for the most part pilot training materials. However, videotapes also are produced as vehicles for the Administrator and other top agency executives to communicate with employees nationwide on agency programs, procedures, and other pertinent agency matters. Other audio visual products have been produced to support the education program and international aviation programs. No audio visual products are produced exclusively for media use. Publications are designed to support the consumer and education functions of the agency.

The Aviation Education staff office implements that program revitalized by the agency two years ago in accordance with Public Law 94-353, Section 21, contained in the 1976 ADAP Bill. Its purpose was to infuse aviation content into existing curricula of elementary and secondary schools by disseminating information supplementary to the existing curricula and providing expertise and materials to those schools. The Aviation Education staff is accomplishing this objective by managing a network of volunteer regional coordinators and local facilitators selected from among FAA employees. The program serves as a "feeder system" for the FAA's Airway Science Curriculum Program.

The agency's historian's principal function is to preserve the FAA's institutional memory and thereby provide FAA managers with a clear perspective of the past as an aid in dealing with current and future problems. He performs this function by assisting in the preservation of agency records, maintaining a small repository of key historical documents, conducting an oral history program, and producing historical monographs and chronologies.

OFFICE OF AVIATION POLICY AND PLANS

Mr. **Lehman**. Last year, it was indicated that you had 54 positions assigned to your Office of Aviation Policy and Plans. What were the major policy determinations that this Office was involved in during the past year?

[The information follows:]

During calendar year 1985, the following policy studies and/or determinations involved the Office of Aviation Policy and Plans:

(a) Drafted and published for comment a Federal Airport Capacity and Access Policy
(b) Revised Aviation Insurance Regulations (14 CFR 198)
(c) Drafted proposal for review by the Secretary of Transportation for the renewal of Airport and Airway Improvement legislation in 1987
(d) Updated Policy Statement of the FAA
(e) Slot Allocation and Transfer Methods for High Density Traffic Airports

In addition to these policy studies and/or determinations, the Office of Aviation Policy and Plans is responsible for FAA planning coordination, Regulatory Analysis (required by Executive Order 12291), Regulatory Flexibility Reviews (required by the Regulatory Flexibility Act), administration of the Aircraft Loan Guarantee Program, development and computation of Facility Establishment Criteria, independent cost analyses, administration of the Aviation Insurance Program, evaluation of Aviation Trust Fund scenarios, and forecasting aviation activity. The following studies/activities were completed/conducted during calendar year 1985 in support of these activities:

General:

Preparation of FAA Annual Report to Congress

Airport/Airway System Performance:

Coordination of Airport Capacity Task Forces for New York (LGA and JFK), Atlanta-Hartsfield, and Baltimore-Washington Airports

Impact of planned construction at O'Hare Airport on aircraft delay

Statistical sampling of aircraft operations at non-towered airports

Regulatory Analysis:

44 Regulatory Evaluations/Impact Analyses in support of rulemaking actions including occupant protection/restraint standards, flight and duty time, rotorcraft damage tolerance, and the establishment of additional airport radar service areas

12 Regulatory Flexibility Determinations/Reviews

Expansion of the FAA's Order providing guidance on the conduct of regulatory flexibility determinations

Facility Establishment:

Developed and implemented additional criteria for MLS installations

Updated data bases for establishment criteria applications

Performed 540 facility establishment site evaluations for the FY 1987 budget

System Acquisition:

Preparation of independent cost analyses for the Host Computer, AWOS, and long range radar

Development of an FAA Life Cycle Cost Model

Development of an avionic cost data base for use in independent cost analyses

Aviation Insurance:

Issued insurance to qualifying air carriers

FAA Finances:

Completed numerous evaluations of the effects of alternative FAA appropriations and aviation user tax revenue scenarios

Aviation Forecasting:

Developed all official forecasts of aviation activity and FAA activity
Hub forecasts for Orlando, FL and Charlotte, N.C.

Administer the Aircraft Loan Guarantee Program:

Settled loans
Seized/protected collateral when in default
Disposed of collateral

IRMP COST AND PROJECTS

Mr. LEHMAN. On page 115, you show a reduction of $2,772,000 because of the deferral of certain information resources management plan efforts. Last year, it was indicated that your total request for your information resources management plan, excluding personnel costs, was $23.9 million.

What is the total budget request for IRMP-related projects for fiscal year 1987?

[The information follows:]

Requests for funding the Information Resource Managemen Plan (IRMP) are spread throughout most FAA appropriations and different program organizations. Consequently, there is no one identifiable program line item in the budget which emcompasses the overall IRMP. However, based on the most recently published IRMP (October 1985) and projected changes that have occurred since that time, we estimate that about $26 million is in the fiscal year 1987 budget request for IRMP projects.

Mr. LEHMAN. Would you provide for the record a listing of your IRMP projects, including the amounts being requested?

[The information follows:]

[In thousands of dollars]

IRMP project	Amount requested	Budget code
Airport Capacity Modeling	353	700
Airport Safety Data System	150	700
Air Traffic/Aviation Standards CBI Expansion	2,300	980
Air Traffic Ops. Planning and Reqmts. Analysis System	4,300	151
Air Traffic Ops. and Mgmt. Information System	130	151
Automated ATC Procedures and Standards Processing	200	151
Aviation Safety Analysis System (Mark II)	7,079	400
Aviation Safety Analysis System (Mark III)	3,000	400
Buildup of Centralized ADP and Communications Facilities to Support Microprocessors	750	900
Enhanced AMIS	200	700
Extend Acquisition, Materiel and Property Management Systems to the Field Level	405	300
Extension of Training to Field Office Facility Level	112	900
Instrument Approach Procedures Automation	2,303	900
Integrate Aeronautical Information Subsystems	1,750	151
Logistics and Inventory System	346	300/980
Obstruction Evaluation and Airport Airspace Analysis	250	151
Office Automation-AHR	300	900
Office Automation (ALG)	275	300
Office Automation (API)	330	900
Personal Property In-Use Management System II	111	900
Procurement System	250	300
Regional Program Management	120	900
All Others (18 projects under $100)	618	

Mr. LEHMAN. Would you also indicate the activities and sub-activities under which these funds are being requested?

[The information follows:]

The following list of activities and subactivities are provided with a budget code that identifies it with an IRMP project listed in the previous answer:

Planning, Direction, and Evaluation Subactivity (151)
Installation and Materiel Services Activity (300)
Administration of Aviation Standards Program Activity (400)
Administration of Airports Program Activity (700)
Direction, Staff, and Supporting Services Activity (900)
Facilities and Equipment (980)

METROPOLITAN WASHINGTON AIRPORTS

Mr. Lehman. Turn to the appropriations for the Metropolitan Washington Airports. How much of your utility and fuel charges were credited to your appropriation in fiscal year 1985 and what is estimated for fiscal year 1986?

[The information follows:]

We credited $309,900 of our utility and fuel charges in fiscal year 1985. We estimate approximately $300,000 will be credited in fiscal year 1986.

Mr. Lehman. Would you indicate for the record how much was credited to this appropriation in fiscal year 1985 from funds received from states, counties, municipalities, other public authorities or private sources and indicate your estimated credits for fiscal years 1986 and 1987?

[The information follows:]

In fiscal year 1985, $1,103,100 was credited. We included in our 1987 budget request an estimate of $1,166,000 in credits for fiscal year 1986 and $1,215,000 for fiscal year 1987. However, due to the severe constraints in fiscal year 1986 coupled with the increased needs for heightened security measures, the Office of Management and Budget has subsequently approved an increase of $1,200,000 in reimbursable authority for fiscal year 1986 to meet ongoing operational needs at the airports.

NET PROFIT

Mr. Lehman. Last year, you projected a combined total of 20.3 million passengers and a net profit of $14.7 million for fiscal year 1986. This year, you indicate that in fiscal year 1986, you will have about 300,000 more passengers than projected, but your net profit will be nearly $1.8 million less than you originally projected.

Would you explain why you have a smaller profit with more passengers than originally estimated?

Mr. Wilding. We scaled back our fiscal year 1986 profit projections slightly on the basis of our actual results for fiscal year 1985. Those profit projections are very, very sensitive to our concession revenues, and we found the yield from that program out at Dulles was a little less than anticipated in 1985, so we reflected that in our new 1986 estimate.

Mr. Lehman. To what extent were your actual results for the first six months consistent with your revised 1986 estimates?

Mr. Wilding. We find our actual passenger activity forecast for Washington National is a little bit too high. It will be more like 15.0 million than the 15.2 million we had forecast, but Dulles we underestimated.

Rather than the 5.4 million shown in the presentation for Dulles, we will probably have better than 6 million passengers in fiscal year 1986. With respect to profit, that higher activity at Dulles will raise our profit projection back up slightly.

TRAFFIC PROJECTIONS

Mr. LEHMAN. Would you update the tables on traffic volume that were included on pages 474 through 477 of last year's hearing record?

[The information follows:]

TEN-YEAR PASSENGER GROWTH TREND

WASHINGTON NATIONAL AIRPORT

Calendar Year	Number of Passengers	Change from Previous Year	Percent Change
1975	11,369,061	-336,967	-2.9%
1976	12,336,534	+967,473	+8.5%
1977	13,258,200	+921,666	+7.5%
1978	14,176,233	+918,033	+6.9%
1979	15,134,017	+957,784	+6.8%
1980	14,538,446	-595,571	-3.9%
1981	14,175,058	-363,388	-2.5%
1982	13,321,098	-853,960	-6.0%
1983	14,461,437	+1,140,339	+8.6%
1984	14,842,922	+381,485	+2.6%
1985	14,690,471	-152,451	-1.0%
Total Increase from 197~~5~~6 through 1985		+3,321,410	+29.2%
Average Annual Increase from 197~~5~~6 through 1985		+332,141	+2.9%

TEN-YEAR PASSENGER GROWTH TREND
WASHINGTON DULLES INTERNATIONAL AIRPORT

Calendar Year	Number of Passengers	Change from Previous Year	Percent Change
1975	2,528,407	-28,803	-1.1%
1976	2,841,495	+313,088	+12.4%
1977	2,867,782	+26,287	+0.9%
1978	3,189,954	+322,172	+11.2%
1979	3,311,965	+122,011	+3.8%
1980	2,624,398	-687,567	-20.8%
1981	2,324,585	-299,813	-11.4%
1982	2,609,933	+285,348	+12.3%
1983	3,019,789	+409,856	+15.7%
1984	3,555,771	+535,982	+17.7%
1985	5,237,277	+1,681,506	+47.3%
Total Increase from 197~~5~~6 through 1985		+2,708,870	+107.1%
Average Annual Increase from 197~~5~~6 through 1985		+270,887	+10.7%

TRAFFIC ACTIVITY BY MONTH
WASHINGTON NATIONAL AIRPORT

	Passengers		Operations	
	Air Carrier	Total	Air Carrier	Total
Fiscal Year 1984:				
October	1,204,056	1,304,311	16,369	29,942
November	1,114,607	1,204,245	15,756	28,385
December	1,049,780	1,129,995	15,952	27,181
January	946,210	1,022,253	15,602	26,801
February	964,197	1,042,139	14,892	26,291
March	1,147,815	1,236,328	16,121	28,566
April	1,200,471	1,294,159	16,066	28,987
May	1,274,740	1,376,858	16,478	31,246
June	1,254,916	1,355,986	15,995	29,798
July	1,116,372	1,201,102	16,076	27,750
August	1,198,756	1,290,477	16,320	28,624
September	1,146,036	1,237,673	15,668	27,963
Total 12 Months	13,617,956	14,695,526	191,295	341,534
Fiscal Year 1985:				
October	1,269,813	2,366,940	15,668	27,963
November	1,189,692	1,273,993	15,777	27,465
December	1,076,825	1,145,014	15,807	26,084
January	995,236	1,066,844	16,051	27,240
February	950,065	1,022,494	14,423	25,164
March	1,184,951	1,269,598	15,702	27,738
April	1,240,328	1,331,153	15,574	28,475
May	1,329,135	1,424,529	16,073	29,666
June	1,296,983	1,389,930	15,402	28,488
July	1,181,128	1,264,426	16,059	27,651
August	1,165,205	1,245,631	16,203	26,734
September	1,028,033	1,105,319	15,156	26,903
Total 12 Months	13,907,394	~~14,905,871~~ 15,[illegible]	187,895	329,571
Fiscal Year 1986:				
October	1,195,315	1,284,944	16,749	30,043
November	1,077,791	1,150,412	15,390	25,605
December	1,069,275	1,135,191	15,850	25,534
January	951,280	1,014,958	16,192	26,233
February	934,197	994,233	14,072	22,549
Total 5 Months	5,227,858	5,579,738	78,253	129,964

TRAFFIC ACTIVITY BY MONTH
WASHINGTON DULLES INTERNATIONAL AIRPORT

	Passengers		Operations	
	Air Carrier	Total	Air Carrier	Total
Fiscal Year 1984:				
October	252,914	272,527	3,466	14,627
November	222,702	238,956	3,571	13,229
December	231,556	244,108	3,813	13,591
January	226,111	241,342	3,750	12,722
February	198,390	212,630	3,487	12,723
March	253,032	269,632	3,982	14,325
April	275,492	295,984	4,139	14,067
May	299,595	322,695	4,422	15,141
June	330,638	351,411	4,578	15,825
July	299,541	316,612	4,723	14,190
August	319,291	336,153	4,901	15,270
September	280,956	299,470	4,597	15,650
Total 12 Months	3,190,218	3,401,520	49,429	171,360
Fiscal Year 1985:				
October	302,947	325,052	4,763	15,676
November	269,405	287,125	4,396	14,594
December	284,268	297,665	4,451	13,916
January	283,959	303,088	4,980	13,854
February	257,802	273,738	4,634	13,305
March	352,067	370,861	5,426	15,979
April	383,893	406,676	5,470	16,200
May	367,044	389,808	5,336	17,990
June	411,523	430,797	5,187	16,491
July	462,296	481,039	6,242	17,319
August	489,433	506,291	6,609	18,301
September	419,204	437,964	6,626	18,122
Total 12 Months	4,283,841	4,510,104	64,120	191,747
Fiscal Year 1986:				
October	507,870	530,742	8,338	20,747
November	503,498	522,487	8,790	19,657
December	567,024	583,786	9,341	20,368
January	478,088	498,343	9,147	19,723
February	442,082	461,904	8,091	16,453
Total 5 Months	2,498,562	2,597,262	43,707	96,948

PASSENGER TOTAL

Mr. **Lehman**. Was the combined total of 19.4 million passengers in fiscal year 1985 the largest number handled by these two airports?

[The information follows:]

Yes, the combined passenger total at National and Dulles airports in fiscal year 1985 set a new record.

Mr. **Lehman**. For fiscal year 1987, you are projecting activity of nearly 22.3 million passengers, an increase of about 15 percent over 1985. What do you believe the capacity of these two airports is, assuming no major capital improvements?

Mr. **Wilding**. There is not a hard-edged number that we could offer, but with the 1987 activity at both airports that we are projecting, roughly 23 or 24 million passengers between the two airports, we are getting to the point where the service levels have deteriorated and we have to do something about it.

LANDING FEES

Mr. **Lehman**. Have you made any changes in your landing fees or other charges during the past year?

Mr. **Wilding**. Yes, sir, consistent with our airline contracts, there are some formulas through which we crank our actual costs each year. The landing fee went down two cents, and the terminal rentals went up slightly.

POSITIONS

Mr. **Lehman**. You currently have 707 authorized positions. What is your present employment?

[The information follows:]

Our employment as of April 21, 1986 was 634.

Mr. **Lehman**. Is your estimated fiscal year 1986 full-time equivalent employment of 717 work-years still valid?

[The information follows:]

It is a little high, but we expect to be doing better in police staffing as a result of the recent police pay raise. The estimate of 717 includes 669 full-time employees, 9 other than full-time, 8 non-ceiling (primarily disadvantaged summer youth employees) and a firefighter adjustment of 31 reflecting firefighter regular duty hours in excess of 40 hours per week.

AIRPORT POLICE AND FIREFIGHTER WORK FORCE

Mr. **Lehman**. Part of your requested increases at both National and Dulles is to increase your police and fire fighter work force. In the past, you have not been able to retain police because of your pay scale.

Recently, it was announced that you were able to obtain a pay raise for your airport police. To what extent do you believe this increase will enable you to increase your onboard police work force?

[The information follows:]

We believe we will be able to bring our police force up to full staffing by the end of the fiscal year. We have had an excellent response to our recruitment efforts since the announcement of the police pay raise.

Mr. **Lehman**. Last year, it was indicated that you had more than a 25-percent vacancy level in your police positions. Have you been able to reduce this vacancy level any during this past year?

[The information follows:]

We were not able to appreciably reduce the vacancy rate percentage during the past year; it hovered in the low 20's. However, now that we have competitive salaries we should be able to fill these vacancies without difficulty.

Mr. **Lehman**. Would you update the tables on police officer vacancies, average age, and turnover rates, which were included on page 380 of last year's hearing record?

[The information follows:]

	Consolidated functions	Washington National Airport	Washington Dulles International Airport	Total
Police officer vacancies:				
Position authorized	6	83	48	137
On board—March 31, 1986	4	61	40	105
Vacancies—March 31, 1986	2	22	8	32
Police average age and turnover rate:				
Average age	46	39	46	42
Turnover—April 1, 1985 to March 31, 1986	1	30	7	38

CRIME STATISTICS

Mr. **Lehman**. Would you also update for the record the crime statistics for these airports for fiscal years 1984 and 1985?

[The information follows:]

1984 UNIFORM CRIME REPORT

	National Airport	Dulles Airport	Total
Murder/Manslaughter-Nonnegligent:	0	0	0
Robbery:	3	0	3
Aggravated Assault:	40	6	46
Rape by force:	1	0	1
Violent Crime Total	44	6	50
Burglary:	45	23	68
Larceny-Theft:	324	99	423
Motor Vehicle Theft:	238	28	266
Arson:	0	0	0
Property Crime Total	607	150	757
Forgery and Counterfeiting:	0	1	1
Fraud:	11	1	12
Stolen Property/Possessing:	11	4	15
Vandalism:	39	12	51
Weapons/Carrying-Possessing:	45	5	50
Sex Offenses (Except Force):	0	1	1
Drug Abuse Violations:	2	0	2
Driving Under the Influence:	6	9	15
Drunk In Public:	15	16	31
Disorderly Conduct:	29	2	31
Runaways (Juveniles):	7	1	8
Other Offenses:	30	11	41
Other Crime Total	195	63	258
Total, All Crimes	846	219	1,065

1985 UNIFORM CRIME REPORT

	National Airport	Dulles Airport	Total
Murder/Manslaughter-Nonnegligent:	0	1	1
Robbery:	4	0	4
Aggravated Assault:	0 → 34	0 → 7	→ 41
? Rape by force			
Violent Crime Total	38	8	46
Burglary:	11	22	33
Larceny-Theft:	372	166	538
Motor Vehicle Theft:	261	34	295
Arson:	0	0	0
Property Crime Total	644	222	866
Forgery and Counterfeiting:	2	1	3
Fraud:	9	0	9
Stolen Property/Possessing:	3	0	3
Vandalism:	20	3	23
Weapons/Carrying-Possessing:	36	9	45
Sex Offenses (Except Force):	0	0	0
Drug Abuse Violations:	11	2	13
Driving Under the Influence:	2	9	~~13~~ 11
Drunk In Public:	8	27	35
Disorderly Conduct:	20	4	24
Runaways (Juveniles):	6	0	6
Other Offenses:	22	9	31
Other Crime Total	139	64	203
Total, All Crimes	821	294	1,115

Mr. **Lehman**. How many vacant fire fighter positions do you have, and do you have a problem retaining fire fighters?

Mr. **Wilding**. There is very little problem in the firefighter area, unlike police. We have five vacancies out of an authorized staff of 83 right now, just normal turnover.

PREVENTATIVE MAINTENANCE

Mr. **Lehman**. You also indicate that part of your fiscal year 1987 increase is for preventive maintenance deferred under Gramm-Rudman-Hollings. What kinds of projects were deferred at each airport, and how critical are they?

Mr. **Wilding**. We think they are critical. As we have fallen back on contract dollars and on employment levels, we look first to cut appearance items—we don't cut the grass as often, for example—but we have gone through that, and are into the preventive maintenance cycles on escalators and automotive equipment, that sort of thing.

Mr. **Lehman**. How old are the six police cruisers, two at National and four at Dulles, you plan to replace?

[The information follows:]

They will range in age from 1½ to 4 years. All six will exceed the replacement criteria of 60,000 miles.

CAPITAL IMPROVEMENTS/EQUIPMENT PROJECTS

Mr. **Lehman**. Would you provide for the record a breakdown of the costs of your major capital improvements and capital equipment projects for each airport, similar to the information contained on pages 485 and 486 of last year's hearing record?

[The information follows:]

Operation and Maintenance, Metropolitan Washington Airports Fiscal Year 1987 Capital Improvement Projects

	Amount
Washington National Airport:	
Improve Terminal HVAC Filtering Systems	$84,000
Subtotal, Washington National Airport	84,000
Washington Dulles International Airport:	
No Capital Improvement Projects	0
Subtotal, Wash. Dulles Int'l Airport	0
Total, Metropolitan Washington Airports	84,000

OPERATION AND MAINTENANCE, METROPOLITAN WASHINGTON AIRPORTS FISCAL YEAR 1987 CAPITALIZED EQUIPMENT

	Quantity	New or Repl	Amount
Washington National Airport:			
Miscellaneous Administrative & Engineering Equip	Var.	Repl.	$5,000
Police Cruisers	2	Repl.	21,000
Miscellaneous Police, Fire, and First Aid Equip	Var.	Repl.	14,000
Miscellaneous Maintenance Equipment	Var.	Repl.	15,000
Subtotal, Washington National Airport			55,000

OPERATION AND MAINTENANCE, METROPOLITAN WASHINGTON AIRPORTS FISCAL YEAR 1987 CAPITALIZED EQUIPMENT—Continued

	Quantity	New or Repl.	Amount
Wash. Dulles International Airport:			
Miscellaneous Administrative & Engineering Equip.	Var.	Repl.	5,000
Police Cruisers	4	Repl.	42,000
Miscellaneous Police, Fire, and First Aid Equip.	Var.	Repl.	14,000
Miscellaneous Maintenance Equipment	Var.	Repl.	14,000
Subtotal, Wash. Dulles Int'l Airport			75,000
Total Metropolitan Washington Airport			130,000

CONSTRUCTION, METROPOLITAN WASHINGTON AIRPORTS

Mr. LEHMAN. The second appropriation for these airports is for construction. Would you provide for the record the status of the construction projects funded in fiscal years 1985 and 1986?

[The information follows:]

STATUS OF FISCAL YEAR 1985 CONSTRUCTION PROJECTS

WASHINGTON NATIONAL AIRPORT

Replace Terminal Roofs—The construction contract was awarded in September 1985. Construction is scheduled for completion in September 1986.

Rehabilitate Apron and Taxiways, Phase III—The construction contract was awarded in May 1985. Construction is complete.

Replace Air Conditioning Machines, Main Terminal—The construction contract was awarded in January 1986. Construction is scheduled for completion in July 1986.

Rehabilitate Airport Roads (Design)—Design is being accomplished by the Federal Highway Administration and is substantially complete.

Master Planning for National Airport, Phase II—Phase I was awarded January 1983. Phase I completed except for final coordination. Phase II will proceed after final coordination of Phase I.

WASHINGTON DULLES INTERNATIONAL AIRPORT

Construct Parking Facilities, Phase II—The construction contract was awarded in April 1985. Construction is complete.

Repair Sections of Access Highway—Design is being accomplished by the Federal Highway Administration. Construction is scheduled for completion in August 1986.

Repair Enplaning/Deplaning Ramps (Design)—The study contract was awarded in December 1985 and is scheduled to be completed in May 1986.

Street Lights, North Service and A Roads—The construction contract was awarded in September 1985. Construction is scheduled for completion in May 1986.

STATUS OF FISCAL YEAR 1986 CONSTRUCTION PROJECTS

WASHINGTON NATIONAL AIRPORT

Rehabilitate Apron and Taxiways, Phase IV—Design is complete; construction is scheduled for completion in November 1986.

Boiler and Steam Plant Repairs—Design will be completed in July 1986; construction is scheduled for completion in March 1987.

Airport Roads—Design is being accomplished by the Federal Highway Administration and is substantially complete. The estimated date for the completion of the construction contract is December 1986.

Rehabilitate Main Sewage Pumping Stations—Design will be completed in September 1986; construction is scheduled for completion in July 1987.

Replace Sewer Line, Main Terminal—Design will be completed in September 1986; construction is scheduled for completion in July 1987.

Projects for Building Code Compliance—The contract to prepare a Building Code Handbook is scheduled for completion in December 1986.

Replace Electrical Feeders/Network Protectors—Construction will begin this summer and is scheduled for completion in March 1987.

WASHINGTON DULLES INTERNATIONAL AIRPORT

Replace Airfield Pavement Panels—Design will be completed in July 1986; construction is scheduled for completion in May 1987.

Rehabilitate Airfield Service Roads—Design will be completed in July 1986; construction is scheduled for completion in May 1987.

Repair Sections of Access Highway—Design is being accomplished by the Federal Highway Administration. Construction is scheduled for completion in August 1986.

Install Guidance Signs—Design is being accomplished in-house. Construction is scheduled for completion in March 1986.

DULLES BAGGAGE CLAIM AREA

Mr. **Lehman**. Is the expansion of your baggage claim area at Dulles completed?

[The information follows:]

It is nearing completion. Work has been completed on three of the baggage claim devices and the fourth will be completed this summer.

DULLES ACCESS ROAD

Mr. **Lehman**. In fiscal years 1985 and 1986, funds were provided to repair certain sectors of the Dulles access highway. Has this work been completed?

[The information follows:]

The 1985 increment was advertised, but no bids were received. We intend to combine the two increments and rebid the project with a proposed completion date of August 1986.

AIRPORT/RAMP REHABILITATION

Mr. **Lehman**. In fiscal years 1985 and 1986, funds were provided to rehabilitate the apron and taxiways at National, phases III and IV. What is the status of this work?

[The information follows:]

The 1985 increment has been completed. The 1986 work is targeted to begin this summer with completion scheduled for November 1986.

UNOBLIGATED BALANCE

Mr. **Lehman**. You indicate that you had an unobligated carryover balance of about $6.3 million as of September 30, 1985, despite the fact that no such carryover was projected in last year's justification. What was the reason for this unanticipated carryover?

Mr. **Wilding**. Some delays in getting some items under contract. We have worked that level down consistently for the last five or six years, and have only let something like one-tenth of 1 percent of the funds lapse, but we are still trying to get to a zero carryover balance.

Mr. **Lehman**. Would you update for the record the tables included on pages 490 and 491 of last year's hearing record showing a breakdown of your unobligated balance?

[The information follows:]

CONSTRUCTION, MWA UNOBLIGATED BALANCE

Washington National Airport	Unobligated Balance As of 3/31/86	Year Funds Appropriated	Status of Project
Modify Industrial Waste Treatment Plant	$ 155,000	1984	Construction contract pending.
Rehabilitate Fire Protection Systems	310,534	1984	Phase I construction underway.
Reroof Sand Storage Building	79,200	1984	Construction contract pending.
Replace Terminal Roofs	856,125	1985	Phase I construction underway.
Master Planning for National Airport, Phase II	1,300,000	1985	Phase I completed except for final coordination.
Rehabilitate Apron & Taxiways	3,185,000	1986	Construction contract pending.
Boiler & Steam Plant Repairs	220,000	1986	Design underway.
Airport Roads	400,000	1986	Design substantially complete.
Rehabilitate Main Sewage Pumping Stations	130,000	1986	Design contract pending.
Replace Sewer Line, Main Terminal	149,000	1986	Design contract pending.
Projects for Building Code Compliance	140,000	1986	Phase II contract pending.
Replace Electrical Feeders/Network Protectors	370,000	1986	Construction contract pending.
All Other	456,577	1984, 1985	Funds reserved for projects already under contract to cover the cost of change orders and contractor claims.
TOTAL WASHINGTON NATIONAL AIRPORT	$7,751,436		

CONSTRUCTION, MWA UNOBLIGATED BALANCE

Washington Dulles Int'l Airport	Unobligated Balance As of 3/31/86	Year Funds Appropriated	Status of Project
Replace Terminal Ceilings	67,057	1984	Design contract pending.
Repair Enplanning/Deplanning Ramp (Design)	25,149	1985	Study underway.
Replace Airfield Pavement Panels	750,000	1986	Design contract pending.
Rehabilitate Airfield Service Roads	705,000	1986	Design contract pending.
Repair Sections of Access Highway	500,000	1986	Construction contract pending.
Install Taxiway Guidance Signs	150,000	1986	Design underway.
All Other	494,485	1984, 1985	Funds reserved for projects already under contract to cover the cost of change orders and contractor claims.
TOTAL WASH. DULLES INT'L AIRPORT	$ 2,691,691		
TOTAL METROPOLITAN WASHINGTON AIRPORTS	$10,443,127		

GATE DESIGN AND CONSTRUCTION

Mr. **Lehman**. On page 9, you are requesting $1.1 million to rehabilitate gate positions at your main terminal at National. You indicate that these funds are for design and construction of five gate pads.

Do you expect you will be able to complete your design work and award a construction contract before the end of fiscal year 1987?

Mr. **Wilding**. These are replacements of pads that are already there. We do expect to complete design and award a construction contract by the end of FY 1987.

Mr. **Lehman**. What is the total estimated cost for all four phases of this program?

[The information follows:]

The total estimated cost is $4.7 million.

NORTH TERMINAL APRON AND GATE PADS

Mr. **Lehman**. You are requesting $2.2 million to rehabilitate the apron and concrete gate pads at the North Terminal. When were these areas paved, and is this the total to complete the project?

Mr. **Wilding**. Yes, sir, it is the total to complete the project. They were last paved when the north terminal itself was built in the late nineteen fifties.

AIRFIELD PAVEMENT

Mr. **Lehman**. Would you indicate for the record how long it has been since you last repaired each of those items for which you are requesting $1.5 million under the heading "repair airfield pavement"?

[The information follows:]

Taxiway H was constructed in 1962. Due to settlement and increased turf growth adjacent to the taxiway, the area near the intersection with Runway 3-21 does not drain properly. No major work has been accomplished on this area since initial construction.

The north and south hangar ramp areas were part of the original airport construction in the 1940's. The north area has not received any structural overlay work since the original construction. The south area has been extensively patched and is a continual maintenance problem due to the constant breakup of old asphalt pavement.

The taxiway near Gate 3 was built in two phases, a portion built in the 1940's and the remainder added in the early 1960's. No repair work has been performed on the area to be replaced since original construction.

No major construction has been performed since 1963 in the areas where miscellaneous deficiencies are being corrected.

STEAM PLANT REPAIR

Mr. **Lehman**. You are requesting $475,000 to repair one of the boilers at your steam plant. This boiler is already more than 30 years old. How long will these repairs extend the life of this boiler and how does this compare with the cost and life expectancy of a new boiler?

[The information follows:]

The repairs to the foundation and associated work would be required regardless of whether the boiler is rehabilitated or replaced. The portion of the estimate associated with renovating the boiler is $225,000. The life expectancy of the renovated boiler is estimated to be at least 15 to 20 years. A new boiler would cost approximately $400,000 and would have a life expectancy of 25 to 30 years.

REPLACEMENT OF ELECTRICAL FEEDER CABLES

Mr. **Lehman**. You are requesting $275,000 for the second phase of a three-phase program to replace certain electric feeder cables at National. What is the status of the first phase of this project?

[The information follows:]

The work will get underway this summer with the final segment scheduled for completion in March 1987.

REPLACING PCB-FILLED TRANSFORMERS

Mr. **Lehman**. What is the total estimated cost of your five-phase program to replace PCB-filled transformers at National?

[The information follows:]

The total estimated cost is $1,525,000.

Mr. **Lehman**. On page 10, how did you arrive at a $450,000 level to replace certain feeder cables and lighting circuits at Dulles?

Mr. **Wilding**. It is an engineering estimate on the basis of our experience and breaks down to $230,000 for the runway lighting, and $220,000 for the feeder to the west building.

REPLACING CONCRETE PAVEMENT

Mr. **Lehman**. You are requesting $500,000 to replace damaged concrete pavement panels at Dulles. Last year, you requested $750,000 for this purpose. How much of this $750,000 has been obligated? If not obligated, when do you expect it will be?

[The information follows:]

None of the $750,000 has been obligated. Construction is scheduled to begin late this summer and be completed in May 1987.

Mr. **Lehman**. Before we leave the local airports, Mr. Coughlin, did you have some questions?

Mr. **Coughlin**. No questions at this time.

AIRCRAFT PURCHASE LOAN GUARANTEE

Mr. **Lehman**. Turn to your Aircraft Purchase Loan Guarantee Program. How many defaults have you had to date under this program, and what is the total amount you have paid as a result of these defaults?

Admiral **Engen**. Mr. McDaniel?

Mr. **McDaniel**. Eight airlines have defaulted on 17 loans to date, and the government has paid $168.6 million.

Mr. **Lehman**. How many is that again?

Mr. **McDaniel**. 17 loans by eight airlines, and the government has paid out $168.6 million.

Mr. **Lehman**. I remember for years, we never had this problem, because the aircraft was worth more every year.

How much has the government recovered in these situations, i.e., defaulted loans?

Mr. **McDaniel**. $105 million.

Mr. **Lehman**. Still trying?

Mr. **McDaniel**. Yes, we have some aircraft under possession but not yet sold from which we expect to recover additional monies. We are also pursuing the sale of other types of collateral to recover outstanding balances that are due to the government.

Admiral **Engen**. I might add, these people are very aggressive in dealing with these loan defaults, and we work on it in a real time basis, trying to get every penny we can.

LOAN DEFAULT—FAA RESPONSIBILITY

Mr. **Lehman**. What is your responsibility with respect to disposing of the aircraft when a loan is defaulted?

[The information follows:]

The FAA has the option of selling the collateral, or transferring the aircraft to a government agency for its use. When collateral is sold, the following procedures are used to assure the sale is accomplished in a commercially reasonable manner:

(1) Advertise the sale in general business and trade publications
(2) Give legal notice of the sale to the defaulting carrier
(3) Have an independent appraisal made of the collateral
(4) Accept bids for a reasonable period of time
(5) Negotiate with bidders to maximize the price received

When the collateral is kept for Government use, we must give legal notice to the defaulting airline and other creditors and follow procedures of the General Services Administration for interagency transfer of surplus property.

BORROWING AUTHORITY

Mr. **Lehman**. You currently have borrowing authority for fiscal year 1986 of $75 million. How much of this authority have you used to date?

Mr. **McDaniel**. $80,000, Mr. Chairman.

Mr. **Lehman**. Why do you feel you need an additional $125 million of borrowing authority in fiscal year 1987, particularly since your estimate of outstanding guaranteed loans at the end of 1987 is about $310 million; certainly you don't expect that 40 percent of these will be defaulted?

Mr. **McDaniel**. No, in the best case estimate, we would use none of that money, but in our worst case estimate, perhaps as much as $105 million might be required.

Mr. **Lehman**. The more authority you have, the easier it is for the banks to pass the buck?

Mr. **McDaniel**. No, the government is obligated to make those payments under the terms of the guarantee, regardless. The borrowing authority provides an expedited way in which to meet government obligations to pay.

OUTSTANDING GUARANTEES

Mr. **Lehman**. Would you provide for the record a listing of outstanding guarantees showing the company, amount, type of aircraft, creditor and interest rate?

[The information follows:]

Other Air Carrier *	L.G. No.	Date	Balance As of March 31, 1986	Type of Equipment	Class A Creditor/Trustee	Interest Rate
Air California	105	9-30-80	$10,265,700.00	B-737-200 (5)	Chase Manhattan	12.00%
Alaska Airlines	054	9-2-77	$3,145,600.00	B-727-200	West. & South. Life	8.00%
Aloha Airlines	052	8-31-77	$2,805,000.00	B-737-200 (2)	American Fletcher Natl Bank	8.17%
Aloha Airlines	071	1-29-80	$5,957,000.00	B-727-200	St. of WI Invest. Board	11.25%
Aloha Airlines	090	2-28-80	$11,170,100.00	B-727-200	St. Of WI Invest. Board ·	11.75%
Aloha Airlines	101	2-17-81	$8,158,900.00	B-737-200	Emplymt Retirement Sys. GA	13.50%
Hawaiian Airlines	073	1-16-81	$31,491,000.00	DC-9-81 (4)	St. of Washington	14.88%
Midway Airlines	088	9-30-81	$13,024,800.00	DC-9-30 (4)	Contin'l Illinois Natl Bank	Varies
Muse Air	133	9-30-81	$26,014,200.00	DC-9-80 (2)	Contin'l Illinois Natl Bank	Varies
New York Air	134	9-30-81	$16,736,600.00	DC-9-30 (4)	Albany Saving Bank	Varies
Ozark	055	9-6-77	$1,834,500.00	DC-9-30	Bowery Saving Bank	7.75%
Pacific Southwest	078	9-30-80	$39,067,400.00	DC-9-80 (4)	U.S. Trust Co.	11.75%
Pacific Southwest	121	9-4-81	$27,327,500.00	DC-9-80 (2)	Bankers Trust Co.	15.90%
Piedmont Aviation	056	9-1-77	$5,441,800.00	B-737-200 (3)	First Interstate Bank of AR	8.25%
Piedmont Aviation	095	9-29-80	$18,305,800.00	B-737-200 (3)	St. of Wash. Fin. Com.	11.125%
Piedmont Aviation	130	7-23-81	$22,477,500.00	B-737-200 (3)	Wachovia Bank and Trust Co.	15.50%
Republic Airlines	044	7-14-77	$1,692,300.00	B-727-200 (3)	American Fletcher Natl Bank	8.75%

Commuter Air Carrier	L.G. No.	Date	Balance As of March 31, 1986	Type of Equipment	Class A Creditor/Trustee	Interest Rate
Big Sky Airlines	094	6-11-80	$283,500.00	Cessna 402 (2)	First Bank - Billings	12.00%
Big Sky Airlines	112	9-29-80	$955,100.00	Metro II	First Bank - Billings	12.50%
Britt	093	7-14-81	$2,393,200.00	Metro II (3) FH-227 (3)	1st Nat'l Bank of Chicago	11.25%
Britt	161	6-30-83	$2,504,200.00	Metro II FH-227 (4)	Amer. Fletcher Natl Bank	11.00%
Chaparral Airlines	165	10-21-82	$2,591,200.00	B-159C (1)	West. & South. Life	15.10%
Chaparral Airlines	080	12-12-79	$303,400.00	Beech-99	First State Bank	12.00%
Chaparral Airlines	107	8-29-80	$328,600.00	Beech-99	First State Bank	FRB +1
Chaparral Airlines	119	2-2-81	$1,189,800.00	CASA 212-200	First State Bank	14.25%
Mid Pacific Airline	137	9-30-81	$5,940,300.00	YS-11A-600 (4)	St. of WI Invest. Board	16.88%
Mid Pacific Airline	164	9-30-82	$1,962,900.00	YS-11-100 (2)	Pittsburg Nat'l Bank	14.80%
Mid Pacific Airline	169	2-23-83	$854,000.00	YS-11-100	Pittsburg Nat'l Bank	13.20%
Pioneer Airways	111	5-27-81	$641,100.00	Beech-99 (3)	West. & South. Life	14.80%
Pocono Airlines	087	5-14-80	$2,015,500.00	Metro II (2)	West. & South. Life	15.25%
Air Midwest	072	12-14-79	$1,690,200.00	Metro II (2)	Ohio Natl Life Ins. Co.	12.75%
Air Midwest	114	9-25-81	$2,170,700.00	Metro II (2)	First Tennessee Bank	Varies
Suburban Airlines	059	7-16-79	$1,684,800.00	SD3-30 (2)	West. & South. Life	10.25%
Suburban Airlines	109	8-26-80	$2,847,700.00	SD3-30 (2)	West. & South. Life	11.75%
Tennessee Airways	099	12-15-80	$392,100.00	EMB-110P1	Banco Real	7.75%

*As of March 31, People Express had a guaranteed loan with a balance of $31,423,000. However, that loan was paid off in entirety on April 25.

DEFAULT RATE

Mr. LEHMAN. According to information provided last year, you made $633 million worth of guarantees since deregulation, and have had $133 million in defaults, which is about a 24-percent default rate.

How did this happen in a program for which the statute required findings that there be reasonable assurance of repayment as well as reasonable protection to the government?

[The information follows:]

FAA analyzed each loan guarantee application before making the guarantee to be sure the application met all applicable statutory and regulatory criteria. In addition to the requirement that there be a reasonable assurance of repayment, there was a requirement that loans be unavailable on reasonable terms without the guarantee (the Government Guaranty of Equipment Loans Act of 1957 as amended). Thus, participants in the program tended to be higher financial risks than the air carrier industry as a whole. Moreover, during the early 1980's this country went through a severe recession which lead to a drop in air travel and ticket price reductions. As a result of this unforeseen recession and its severe impact on airline revenues, eight participants in this program defaulted on 17 loans. The FAA paid out $169 million for settlement and administration of these loans, but has recovered $106 million of these costs thus far by disposal of collateral and other means. FAA has worked and continues to work with the lending institutions and carriers with guaranteed loans which are in financial difficulty to avert defaults whenever possible.

Mr. COUGHLIN. Have you tightened up your criteria?

Mr. MCDANIEL. No loans have been granted subsequent to October of 1984. The criteria are very tight.

Admiral ENGEN. We are out of the business of granting loans.

Mr. LEHMAN. 310 million or so exposed?

Mr. MCDANIEL. That is correct.

Mr. COUGHLIN. A loss of, so far, about 60?

Mr. MCDANIEL. We have paid $168 million, but we have recovered $105, yes, you are correct, Mr. Coughlin.

AVIATION INSURANCE REVOLVING FUND

Mr. LEHMAN. Turn to the Aviation Insurance Revolving Fund. What is the present balance in this fund?

[The information follows:]

$35.2 million as of March 31, 1986.

Mr. LEHMAN. Do you have any claims pending?

Mr. MCDANIEL. No.

[The information follows:]

There are no pending claims at the present time, but there could be future claims when new policies are issued.

Mr. LEHMAN. What is the contingent liability under the fund?

[The information follows:]

The contingent liability for the Aviation Insurance Program is $196.5 billion, but the contingent liability for the Aviation Insurance Revolving Fund is $0. Two types of insurance are issued by the program—nonpremium insurance and premium insurance. FAA currently has nonpremium insurance policies in effect with carriers whose aircraft constitute the Civil Reserve Air Fleet and might be used for contract flights for the Department of Defense. The nonpremium policies can be activated whenever the statutory criteria under which FAA may provide insurance applies, and the estimated contingent liability under those policies is $196.5 billion. Under an existing intra-agency agreement, DOD would indemnify DOT for any claims arising under the nonpremium policies. The Aviation Insurance Revolving Fund is used for claims arising only out of premium insurance issued by the FAA. At this time, there are no outstanding premium policies and, therefore, the contingent liability under the Aviation Insurance Revolving Fund is $0. The FAA could, at any time, however, be called upon to issue premium policies.

PREMIUMS CHARGED

Mr. **Lehman**. Have you ever paid any claims from this fund? If so, when?

Mr. **McDaniel**. Total payment on the order of $150,000.

Mr. **Lehman**. Last year, it was indicated that you were preparing a notice of proposed policy related to the premiums charged under this program. What did that notice provide, and what is the status of it?

Mr. **McDaniel**. The status of the notice, it is still in a draft stage; and we are assembling information about the setting of the premiums associated with those policies, and we expect to publish the statement sometime this summer.

Mr. **Lehman**. You also indicated that you were looking into the possibility of joint insurance. What did you decide regarding that issue?

Mr. **McDaniel**. We will make that determination at the same time we issue the policy statement.

Mr. **Lehman**. Are these aircraft that the government uses?

Mr. **McDaniel**. No, sir, these are aircraft owned by the commercial industry, but for one reason or another, they cannot obtain insurance through the commercial market, and therefore apply to us for emergency insurance.

This is both haul coverage and liability coverage, Mr. Chairman.

Mr. **Lehman**. Mr. Coughlin?

Mr. **Coughlin**. Thank you, Mr. Chairman, I have no further questions.

Mr. **Lehman**. Mr. Carr.

Mr. **Carr**. None at this time, Mr. Chairman.

DEVELOPMENT DIRECTION

Mr. **Frisbie**. We answered one question yesterday on development direction, having to do with the interaction between the contractor and the development direction people.

Can we amplify on that for the record?

Mr. **Lehman**. Without objection.

[The information follows:]

The Operations Development Direction activity provides for the management of staff support for FAA activities related to Research, Engineering and Development (R,E&D) programs. Systems Engineering and Integration (SEI) activities on NAS Plan related R,E&D items such as Host, Advanced Automation Systems, Next Generation Radar Systems are complementary and supportive. SEI is not involved in non-NAS Plan R,E&D efforts such as Aircraft Safety, Medicine, Environmental, Aircraft Separation Assurance Program.

GRANTS-IN-AID FOR AIRPORTS

Mr. **Lehman**. Turn to trust fund programs.

Turn to the grants-in-aid for airports. You are proposing an obligation limitation of $712.5 million for fiscal year 1987. Last year, it was indicated that your study of the economic impact of airports was well underway, and was expected to be completed before the end of calendar year 1985.

Has this study been completed? If so, what were the conclusions? If not, what has caused the delay and when do you expect it to be completed?

Admiral ENGEN. Mr. Donahue?

Mr. DONAHUE. The study is in the final review process, and is being reviewed by the FAA internally and externally by industry. The cost-benefit ratio of our improvements on airports is about 4 to 1, and the delay was caused by the extensive evaluation of earlier comments that have been submitted on our draft.

Mr. LEHMAN. On page 2, you indicate that you recovered $10,119,000 in prior year obligations in fiscal year 1985. From which airports were these funds recovered, and what did you do with those funds?

[The information follows:]

Recoveries are derived from closeout adjustments to hundreds of projects throughout the year. Of the $10.1M recovered in fiscal year 1985, a total of $9.7M was reobligated for new projects and for upward adjustments to old projects. The unused balance of .4M remains available for reobligation throughout the life of AIP (through fiscal year 1987).

CONTRACT AUTHORITY UNOBLIGATED BALANCE

Mr. LEHMAN. You also indicate that at the end of fiscal year 1987, you will have an unobligated balance of $723,215,000 in contract authority. What happens to this contract authority at the end of fiscal year 1987?

Mr. DONAHUE. These funds are made available for primary airports, states, the State of Alaska, and discretionary funds. We would expect the discretionary funds would lapse at the end of fiscal year 1987, but that under terms of the appropriate legislation, funds for primary airports, states, and Alaska, would continue to be made available. This assumes no further Congressional action.

Mr. LEHMAN. When does an airport qualify for primary status?

Mr. DONAHUE. The commercial service category is when they enplane more than 2,500 passengers and have scheduled passenger service. The primary category is reached when they enplane .0170 or more of the total number of passengers enplaned annually at all commercial service airports. For the FY 1986 program, this was approximately 37,000 passengers.

Mr. LEHMAN. Richmond Airport, would that be primary?

Mr. DONAHUE. Yes.

Mr. LEHMAN. For the record, I would like to have a definition.

[The information follows:]

A high volume commercial service airport (or primary airport) is a commercial service airport that accounts for 0.01 percent or more of the total number of passengers enplaned annually at all commercial service airports. Commercial service airports that enplaned 36,809 or more passengers in Calendar Year 1984 are considered to be primary airports for the Fiscal Year 1986 Airport Improvement Program.

GRAMM-RUDMAN REDUCTION

Mr. **Lehman**. Was your fiscal year 1986 airport grant Gramm-Rudman-Hollings reduction applied to formula apportionments or discretionary funds, and why?

Mr. **Donahue**. That was applied proportionally to both formula and discretionary funds.

Mr. **Lehman**. What is the status of allocation and obligation of your airport grant funds, both enplanement and discretionary?

Mr. **Donahue**. We will provide that.

[The information follows:]

Of the $885.225M authorized this year (after consideration of Gramm-Rudman), $575 million is allocated and almost $300 million is obligated through April 30. Plans for the distribution of remaining current year dollars are virtually complete.

STATUS OF LOCATIONS IN H.R. 99-256

Mr. **Lehman**. Would you indicate for the record the actions taken with regard to the airports identified on page 41 of House Report 99-256 accompanying the fiscal year 1986 Transportation Appropriations bill?

[The information follows:]

STATUS OF NAMED LOCATIONS

HOUSE COMMITTE ON APPROPRIATIONS REPORT FOR FY 1986 APPROPRIATIONS

LOCATION AIRPORT NAME TYPE	REQUESTED	PLANNED OR PROGRAMMED	REMARKS
FLORIDA			
Miami Opa-Locka (RELIEVER)	Apron improvements and fence - $995,000; expand apron - $432,454; REIL - $27,000; construct service road - $393,000; install signs - $225,000; roadway improvements - $805,000.	Apron improvements and fence - $995,000.	Remaining items of work will be considered in subsequent years.
GEORGIA			
Lawrenceville Gwinnett County (RELIEVER)	Land for development - $2,457,989; construct runway, taxiway and aprons (site preparation) - $10,378,405; pave runway, taxiways and aprons - $3,586,204; construct runway extension, taxiway and lights - $2,379,866; relocate localizer - $67,500; install fencing - $158,090.	Land for development - $2,457,989.	Remaining items of work will be funded over several years.
ILLINOIS			
Kankakee Greater Kankakee (GENERAL AVIATION)	None	None	Sponsor received $3,548,614 in FY 85 for major airport improvements.
Peoria Greater Peoria (PRIMARY)	Relocate road for runway extension; land for development and approaches - $1,861,830 (multi-year); master plan update - $109,941; Also expect request to extend runway - $8.0M.	Relocate road for runway extension; land for development and approaches - $1,861,830 - ($760,421 is FY 86 portion of multi-year); plan update - $109,941.	Runway extension has not been requested but expected to be soon. Runway extension will be phased based on availability of funds.
INDIANA			
Evansville Evansville Dress Regional (PRIMARY)	Construct taxiways, apron, access and service roads for new terminal area (Phase I) - $1,720,000 (multi-year); site grading and drainage for taxiways, apron, access and service roads for new terminal area (Phase II) - $6,595,000.	Construct taxiways, apron, access and service roads for new terminal area (Phase I) - $1,720,000 - ($189,552 is FY 86 portion of multi-year); construct access road - $683,565.	Other items will be considered for funding in FY 86 and subsequent years based on availability of funds.

LOCATION AIRPORT NAME TYPE	REQUESTED	PLANNED OR PROGRAMMED	REMARKS
IOWA			
Ames Ames Municipal (GENERAL AVIATION)	Pave and light taxiway and taxiway turnaround - $1,464,880; pave parallel taxiway - $749,925; land for clear zone - $10,100; land for development - $247,525; and pave access road $171,000.	Pave and light taxiway and taxiway turnaround - $1,200,000.	Remaining work will be considered as additional funds are made available.
LOUISIANA			
Oakdale Allen Parish (GENERAL AVIATION)	Overlay and extend runway; land for approaches - $500,000; construct taxiways and apron; install runway and taxiway lighting; construct access road; install visual approach aids and fencing - $500,000.	Overlay and extend runway; land for approaches - $500,000.	Remaining work will be considered in subsequent years.
MASSACHUSETTS			
Boston Logan International (PRIMARY)	Update master plan - $975,000; acquire noise monitoring equipment - $528,000; Neptune road replacement housing - $2,987,728; acquire friction measuring equipment - $52,000; soundproof schools - $1,032,000; soundproof residences - $1,856,000; improve and rehabilitate airfield pavement - $4,972,500; install remove lighting controls - $220,770; and acquire land for airport development (no preapplication) - $4,100,000.	Acquire friction measuring equipment - $53,250*; install remove lighting controls - $220,770*; acquire land for development - $4,100,000; expand apron - $1,500,000; construct taxiways, soundproofing and noise monitoring equipment - $1,400,000.	Remaining work will be considered as additional funds are made available.
MICHIGAN			
Pontiac Oakland-Pontiac (RELIEVER)	Rehabilitate runway; rehabilitate and strengthen apron; rehabilitate runway and taxiway lighting - $600,000.	Rehabilitate runway; rehabilitate and strengthen apron; rehabilitate runway and taxiway lighting - $600,000.	All current requests have been satisfied.

LOCATION AIRPORT NAME TYPE	REQUESTED	PLANNED OR PROGRAMMED	REMARKS
OHIO			
Akron Akron-Canton Regional (PRIMARY)	Groove runway; extend and light runway and taxiway (Phase II); overlay runway; construct access road; install fencing - $2,462,274 (multi-year); improve terminal building - $844,442 (multi-year)	Groove runway; extend and light runway and taxiway (Phase II); overlay runway; construct access road; install fencing - $2,462,274 ($318,200 is FY 86 portion of multi-year); improve terminal building - $844,442 - ($468,103 is FY 86 portion of multi-year).	All requests satisfied.
OKLAHOMA			
Shawnee Shawnee Municipal (GENERAL AVIATION)	Relocate runway lighting; install runway underdrains - $247,500; construct and light runway extension, construct taxiway, construct highway tunnel - $1,837,667.	See Remarks.	The runway lighting relocation and underdrain work will be funded in FY 1987. Remaining work will be funded if the Federal Highway Administration (FHWA) provides funds to construct highway tunnel; Urban Mass Transportation Administration and FHWA currently discussing transfer of $1.35 million for this purpose as specified in Congressional reports.
OREGON			
Hillsboro Portland-Hillsboro (RELIEVER)	Rehabilitate taxiway lighting system and install taxiway guidance signs - $113,000; fill ditch in runway safety area - $226,000.	See Remarks.	The sponsor has requested that FAA give top consideration to the construction of the new reliever airport at Mulino, which has received $4.85 million to date.

LOCATION AIRPORT NAME TYPE	REQUESTED	PLANNED OR PROGRAMMED	REMARKS
PENNSYLVANIA			
Allentown Allentown-Bethlehem-Easton (PRIMARY)	Extend taxiway; reconstruct taxiway; construct apron; retire terminal building bonds; land for approaches and development; improve storm drainage - $2,686,124 (multi-year); land for approaches - $500,000; construct apron - $2,250,000; land for approaches - $1,202,000; widen taxiways - $1,215,900; acquire snow removal equipment - $162,000.	Extend taxiway; reconstruct taxiway; construct apron; retire terminal building bonds; land for approaches and development; improve storm drainage - $2,686,126 - ($950,070 is FY 86 portion of multi-year).	Remaining items will be considered for funding in subsequent years based on availability of funds.
Wilkes-Barre/Scranton Wilkes-Barre/Scranton (PRIMARY)	Extend runway (site preparation); land for development; relocation assistance-$4,201,232; extend runway (Phase II) - $3,442,710 (multi-year); extend runway (Phase III) - $2,500,000; extend runway (Phase IV) - $1,600,000; acquire snow removal equipment - $100,000.	Extend runway (site preparation); land for relocation assistance - $4,201,232; extend runway (Phase II) $3,447,710 - ($768,328 is FY 86 portion of multi-year); extend runway (Phase III) - $2,500,000.	Runway extension expected to be completed in FY 1987.

RELIEVER AIRPORTS

Mr. LEHMAN. Last year, it was indicated that you had a study underway to examine the effect of the reliever airport development program on the mix of commercial and non-commercial aircraft at major airports. This study was to have been completed last summer.

What were the major conclusions of your study?

Mr. DONAHUE. A draft report analyzing whether reliever airports have succeeded in diverting traffic away from major hub airports has recently been completed.

The report indicates that a clear conclusion cannot be drawn since impacts of the general aviation industry recession in the period since 1978 may have impacted the statistical data base and created inconclusive results.

Additionally, factors such as the controller strike in 1981 and the deregulation of the airlines may also have impacted the data base.

However, the existence of reliever airports is extremely important to the aviation system. Reliever airports handle large amounts of traffic, and many have hundreds of based aircraft.

If the reliever airports did not exist, their traffic would overwhelm the busy air carrier airports in the metropolitan areas and result in substantial detrimental impacts throughout the entire aviation system.

I recently visited the L.A. Basin, where they have 20 airports, where they base over 14,000 general aviation aircraft away from busy carrier airports.

Mr. LEHMAN. Would the Opa Locka be a reliever airport to the Miami International Airport?

Mr. DONAHUE. Yes, sir.

Mr. LEHMAN. And Tamiami?

Admiral ENGEN. Yes, and Fort Lauderdale Executive.

Mr. LEHMAN. Will you be proposing to increase the 10-percent minimum allocation to reliever airports in your airport grant reauthorization legislation?

Mr. DONAHUE. The legislation to reauthorize the grant program is still under review at FAA.

At present, I recommend they receive the same percentage as they do under the present legislation. If any change is made I wouldn't expect it to be more than one or two percentage points.

Mr. LEHMAN. How much above the 10-percent minimum did you allocate to reliever airports in fiscal year 1985 and what are your plans for the current fiscal year?

Mr. DONAHUE. $114.1 million which was 12.3 percent of the appropriation level of $925 million in FY 1985.

This was slightly above our historical average of 12.1 percent. We expect that during the current fiscal year this will continue at approximately the 12 percent level.

Mr. LEHMAN. Do you intend to propose any changes in the other minimum allocations, such as noise compatability projects, other commercial service airports and system planning?

Mr. DONAHUE. Any changes that we would propose, Mr. Chairman, are still under discussion, and we expect no final decision for the next few weeks.

All the areas you mentioned are being addressed in our discussions and funding for all these categories will be included, with the various percentages expected to be changed only slightly in any single category.

PENDING APPLICATIONS

Mr. **Lehman**. To the extent feasible, would you provide a breakdown of the pending applications according to the categories listed on page 7?

[The information follows:]

AIP UNSATISFIED REQUESTS ON FILE AS OF MARCH 10, 1986

[In millions of dollars]

	Number	Amount
Primary/Commercial Service	788	$2,129.8
General Aviation/Reliever	1,320	1,243.1
Total	2,108	3,372.9

DISCRETIONARY GRANTS

Mr. **Lehman**. In the past, it has been indicated that most of the decisions regarding the allocation of your discretionary grants are made by your regions.

Are your discretionary funds distributed to the various regions by formula? If not, how are they distributed?

Mr. **Donahue**. Mr. Chairman, the regions receive their discretionary funds based on the priority system within the FAA. The regions develop their level of projected need of discretionary funds, it is submitted, and then we prioritize all of the lists from the regions, and invariably the requested amounts exceed the availability, so all regions receive pro rata reductions in their requested amounts.

Mr. **Lehman**. What criteria goes into your priority system, and does the fact that we put something in the report help any?

Admiral **Engen**. It focuses where we put our attention.

Mr. **Lehman**. You can detail that for the record.

[The information follows:]

The priority system considers the purpose of development, the activity of the airport and the type of development. It gives highest priority to safety and security requirements of regulations at all airports before considering other types of development. It then directs attention to development needed to continue existing system capacity by reconstruction of aircraft operating surfaces, bringing airports up to FAA standards, and upgrading airports to assure accommodation of larger aircraft. Development to provide new capacity items at higher activity airports is also emphasized.

Report language discussing priorities is always considered within the scope of the priority system.

PRIOR YEAR SAFETY AND SECURITY PROJECTS

Mr. **Lehman**. You state that safety and security are your highest priority projects. Last year, you listed a number of pending applications for safety and security projects.

Would you indicate for the record which, if any, of these applications were not funded, and the reasons why they weren't?

[The information follows:]

Airport City State	Federal Funds Requested	Description of Work
Oxnard Oxnard California	$ 45,000	Acquire crash/fire/rescue vehicle.

Reason for not funding: Additional vehicle not justified.

Redding Municipal Redding California	343,800	Expand crash/fire/rescue building

Reason for not funding: Present building providing sufficient service. Building expansion will be considered in FY 1987 program.

Lake Tahoe South Lake Tahoe California	229,500	Acquire a crash/fire/rescue vehicle; (1,500 gallon water and 100 gallon foam capacitites) including accessory crash/fire/rescue equipment.

Reason for not funding: Replacement for existing equipment which is still serviceable.

Garfield County Rifle Colorado	365,000	Apply porous friction course; install automatic weather reporting equipment.

Reason for not funding: Lost commercial service. Sponsor no longer interested in this work.

Saipan International Obyan Trust Territories	365,000	Acquire crash/fire/rescue vehicle.

Reason for not funding: Replacement for existing equipment which is still serviceable.

Igor I. Sikorsky Mem. Bridgeport Connecticut	234,000	Acquire crash/fire/rescue equipment.

Reason for not funding: Sponsor no longer interested.

Dubuque Municipal Dubuque Iowa	$1,868,400	Acquire crash/fire/rescue building and adjoining apron (Phase II); apron construction (Phase I); airport water system improvements; install new MIRL (Runway 18/36).

Reason for not funding: Sponsor no longer interested.

Will Rogers World Airport Oklahoma City Oklahoma	225,000	Acquire crash/fire/rescue vehicle.

Reason for not funding: Replacement for existing equipment which is still serviceable.

Harrisburg Int'l. Middletown Pennsylvania	194,400 254,254 (two requests)	Acquire crash/fire/rescue equipment. Acquire crash/fire/rescue equipment.

Reason for not funding: Replacements for existing equipment which is still serviceable.

Greater Pittsburgh International Pittsburgh Pennsyvlania	225,000	Acquire crash/fire/rescue vehicle.

Reason for not funding: Replacement for existing equipment which is still serviceable.

William P. Hobby Houston Texas	1,285,606	Construct crash/fire/rescue building.

Reason for not funding: Planned for FY 1986.

La Crosse Municipal La Crosse Wisconsin	540,000	Master plan update; install runway lighting, Runway 18/36; acquire crash/fire/rescue equipment; acquire snow removal equipment.

Reason for not funding: Partial funding planned for FY 1986.

PENDING SAFETY AND SECURITY APPLICATIONS

Mr. **Lehman**. Would you provide for the record a listing of your pending applications for safety and security projects?

[The information follows:]

AIP Requests including Work Priority A
(Priority A items are underlined)

Airport City State	Federal Funds Requested	Work Description
Ketchikan Ketchikan Alaska	$ 2,250,000	Apply porous friciton course; overlay taxiway; mark runway and taxiway
Texarkana Muni-Webb Field Texarkana Arkansas	202,500	Acquire crash/fire/rescue equipment
Oxnard Oxnard California	45,000	Crash/fire/rescue vehicle
Redding Redding California	343,800	Expand crash/fire/rescue building including access road improvements
Redding Redding California	2,700,574	Extend runway 12/20 including PFC, taxiway extension and lighting; install VASI
Sacramento Sacramento California	261,917	Crash/fire/rescue equipment
Lake Tahoe South Lake Tahoe California	229,500	Crash/fire/rescue vehicle including crash/fire/rescue equipment
Glynco Jetport Brunswick Georgia	76,500	Crash/fire/rescue vehicle
Esler Regional Alexandria Lousiana	104,000	Rehabilitate crash/fire/rescue vehicle
Roswell Industrial Air Center Roswell New Mexico	1,528,000	Porous friction course runway; groove runway; rehabilitate taxiway and apron pavement

Airport City State	Federal Funds Requested	Work Description
Lawton Municipal Lawton Oklahoma	$ 22,500	Security Equipment
Will Rogers World Oklahoma City Oklahoma	532,500	Acquire crash/fire/rescue vehicles
Harrisburg International Middletown Pennsylvania	340,695	Acquire crash/fire/rescue equipment
Allegheny County Pittsburgh Pennsylvania	45,270	Grooving of runway
Greater Pittsburgh Municipal Pittsburg Pennsylvania	225,000	Acquire crash/fire/rescue vehicle
Amarillo International Amarillo Texas	3,123,360	Groove runway 4-22; Clean and seal PCC joints; and rehabilitate bituminous pavement
William P. Hobby Houston Texas	1,285,606	Construct crash/fire/rescue building
Gregg County Longview Texas	243,000	Acquire crash/fire/rescue vehicle
Bellingham International Bellingham Washington	832,000	Acquire fire truck; construct safety area; overlay runway
Grant County Moses Lake Washington	225,000	Acquire crash/fire/rescue equipment
Yakima Air Terminal Yakima Washington	315,000	Replace crash/fire/rescue vehicle
Eau Claire County Eau Claire Wisconsin	198,000	Crash/fire/rescue equipment

DISCRETIONARY FUND ALLOCATION

Mr. Lehman. Would you provide for the record a listing of the fiscal year 1985 discretionary grants in excess of $1 million, indicating the airport, amount and purpose of the grant?

[The information follows:]

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AIRPORT IMPROVEMENT PROGRAM
DISCRETIONARY FUNDS

FISCAL YEAR(S) 85
ALL REGIONS
ALL STATES

LOCATION/ AIRPORT	WORK DESCRIPTION	DISCRETIONARY PORTION	TOTAL FEDERAL FUNDS
ALABAMA			
HUNTSVILLE HUNTSVILLE-MADISON COUNTY	STRENGTHEN AND GROOVE RUNWAY; STRENGTHEN TAXIWAY; INSTALL RUNWAY, APRON AND SERVICE ROAD LIGHTING	$1,269,250	$1,953,000
MOBILE BATES FIELD	ACQUIRE SECURITY VEHICLE; GROOVE RUNWAY; PAVE APRON	$1,249,582	$1,249,582
	SUB TOTALS	$2,518,832	$3,202,582
ARIZONA			
GLENDALE GLENDALE MUNICIPAL (NEW)	CONSTRUCT RUNWAY, TAXIWAY AND APRON; LAND FOR DEVELOPMENT	$2,000,000	$2,000,000
PHOENIX PHOENIX SKY HARBOR INTERNATIONAL	LAND FOR NOISE COMPATIBILITY; RELOCATION ASSISTANCE	$3,674,125	$3,674,125
PHOENIX PHOENIX SKY HARBOR INTERNATIONAL	CONSTRUCT AND LIGHT TAXIWAYS; CONSTRUCT ACCESS AND PERIMETER ROADS; IMPROVE DRAINAGE; LAND FOR NOISE COMPATIBILITY; RELOCATION ASSISTANCE; INSTALL FENCING	$3,250,000	$6,125,958

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LOCATION/ AIRPORT	WORK DESCRIPTION	DISCRETIONARY PORTION	TOTAL FEDERAL FUNDS
TUCSON TUCSON INTERNATIONAL	LAND FOR DEVELOPMENT AND NOISE COMPATIBILITY	$2,000,000	$5,310,818
	SUB TOTALS	$10,924,125	$17,110,901
ARKANSAS			
LITTLE ROCK ADAMS FIELD	CONSTRUCT RUNWAY AND TAXIWAYS (SITE PREPARATION)	$1,500,000	$3,405,868
	SUB TOTALS	$1,500,000	$3,405,868
CALIFORNIA			
BURBANK BURBANK-GLENDALE-PASADENA	LAND FOR DEVELOPMENT	$2,500,000	$9,083,710
FULLERTON FULLERTON MUNICIPAL	LAND FOR DEVELOPMENT AND RELOCATION ASSISTANCE; CONSTRUCT TAXIWAY; INSTALL APRON LIGHTING AND FENCING	$1,869,728	$1,869,728
LIVERMORE LIVERMORE MUNICIPAL	CONSTRUCT RUNWAY, TAXIWAY AND APRON; INSTALL TAXIWAY AND APRON LIGHTING; EXTEND AND LIGHT AIRPORT ACCESS ROAD	$1,574,136	$1,574,136

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LIVERMORE LIVERMORE MUNICIPAL	CONSTRUCT TAXIWAYS; RELOCATE POWER LINES UNDERGROUND	$1,109,690	$1,109,690
LOS ANGELES LOS ANGELES INTERNATIONAL	CONSTRUCT TAXIWAYS, BRIDGE AND SERVICE ROAD; RECONSTRUCT RUNWAY AND TAXIWAY; INSTALL TAXIWAY LIGHTING; IMPROVE DRAINAGE	$2,130,000	$16,529,580
PALM SPRINGS PALM SPRINGS MUNICIPAL	EXTEND AND LIGHT RUNWAY AND TAXIWAY; CONSTRUCT AND LIGHT HIGH SPEED TAXIWAY TURNOFFS; CONSTRUCT AND LIGHT TAXIWAY; STABILIZE RUNWAY AND TAXIWAY SHOULDERS	$3,483,228	$4,825,233
RIVERSIDE RIVERSIDE MUNICIPAL	LAND FOR DEVELOPMENT; APPLY POROUS FRICTION COURSE TO RUNWAY	$1,036,174	$1,036,174
SAN JOSE SAN JOSE INTERNATIONAL	LAND FOR NOISE COMPATIBILITY; RELOCATION ASSISTANCE	$3,000,000	$3,104,602
SANTA ANA JOHN WAYNE	OVERLAY RUNWAY AND APPLY POROUS FRICTION COURSE	$1,743,726	$1,743,726

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SANTA MONICA SANTA MONICA	RECONSTRUCT/OVERLAY APRONS; SEAL RUNWAY JOINTS; RELOCATE/CONSTRUCT ELECTRICAL VAULT; INSTALL RUNWAY, TAXIWAY AND APRON LIGHTING; INSTALL FENCING; IMPROVE DRAINAGE AND EROSION CONTROL	$3,000,000	$3,000,000
TEMECULA TEMECULA (NEW)	LAND FOR AIRPORT DEVELOPMENT AND APPROACHES	$1,182,079	$2,000,000
	SUB TOTALS	$22,628,761	$45,876,579
COLORADO			
DENVER FRONT RANGE (NEW)	REMOVE OBSTRUCTION; CONSTRUCT RUNWAY, TAXIWAY AND APRON; INSTALL RUNWAY AND ROADWAY LIGHTING; CONSTRUCT DRAINAGE	$1,255,836	$1,255,836
DENVER JEFFERSON COUNTY	RELOCATE STATE HIGHWAY; LAND FOR DEVELOPMENT	$2,750,000	$2,750,000
EAGLE EAGLE COUNTY	CONSTRUCT RUNWAY, TAXIWAY AND APRON	$1,387,594	$1,387,594
PUEBLO PUEBLO MEMORIAL	REHABILITATE RUNWAY	$1,950,000	$1,950,000
	SUB TOTALS	$7,343,430	$7,343,430

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FLORIDA			
STATE OF FLORIDA	STATE SYSTEM PLAN UPDATE	$1,600,000	$1,600,000
FORT LAUDERDALE FORT LAUDERDALE-HOLLYWOOD INTERNATIONAL	ACQUIRE CRASH/FIRE/RESCUE VEHICLE; CONSTRUCT TAXIWAYS AND APRONS (SITE PREPARATION); CONSTRUCT APRON AND ACCESS ROADS; CONSTRUCT TERMINAL BUILDING	$3,000,000	$7,250,103
FORT LAUDERDALE FORT LAUDERDALE-HOLLYWOOD INTERNATIONAL	CONSTRUCT APRON	$1,350,000	$1,350,000
FORT LAUDERDALE FORT LAUDERDALE-HOLLYWOOD INTERNATIONAL	MASTER PLAN UPDATE; CONSTRUCT TAXIWAY AND APRON (PHASE II); LAND FOR DEVELOPMENT; RELOCATION ASSISTANCE	$3,094,427	$3,094,427
MIAMI MIAMI INTERNATIONAL	CONSTRUCT AND LIGHT TAXIWAYS INCLUDING SHOULDERS (PHASE I); CONSTRUCT CARGO TUNNEL EXTENSION; RECONSTRUCT APRON	$3,442,086	$4,281,900
MIAMI OPA-LOCKA	CONSTRUCT AND LIGHT TAXIWAYS AND APRON; MODIFY ELECTRICAL VAULT; CONSTRUCT/RECONSTRUCT ACCESS ROADS	$1,368,900	$1,368,900

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TAMPA VANDENBERG	ACQUIRE RELIEVER AIRPORT	$2,500,000	$2,500,000
	SUB TOTALS	$16,355,413	$21,445,330
GEORGIA			
ATLANTA WILLIAM B HARTSFIELD-ATLANTA INTL	LAND FOR NOISE COMPATIBILITY; RELOCATION ASSISTANCE; SOUNDPROOF RESIDENCES FOR NOISE COMPATIBILITY	$6,000,000	$18,500,000
	SUB TOTALS	$6,000,000	$18,500,000
ILLINOIS			
AURORA AURORA MUNICIPAL	IMPROVE DRAINAGE	$1,173,082	$1,173,082
CHICAGO CHICAGO-O'HARE INTERNATIONAL	ACQUIRE SAFETY AND SECURITY EQUIPMENT; INSTALL RUNWAY LIGHTING; CONSTRUCT PEDESTRIAN UTILITY TUNNELS; RELOCATE ELECTRICAL VAULT; RELOCATE AIR NAVIGATION AIDS; ACQUIRE SNOW REMOVAL EQUIPMENT; WIDEN ACCESS ROAD	$1,031,040	$8,880,765

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LOCATION/ AIRPORT	WORK DESCRIPTION	DISCRETIONARY PORTION	TOTAL FEDERAL FUNDS
CHICAGO CHICAGO MIDWAY	REMOVE OBSTRUCTIONS; ACQUIRE SAFETY AND SECURITY EQUIPMENT; CONSTRUCT AND LIGHT TAXIWAYS; ACQUIRE SNOW REMOVAL EQUIPMENT; CONSTRUCT SERVICE ROAD AND BLAST FENCES; IMPROVE DRAINAGE; LAND FOR APPROACHES; RELOCATION ASSISTANCE	$1,080,000	$7,446,495
CHICAGO CHICAGO-O'HARE INTERNATIONAL	RELOCATE AIR NAVIGATION AIDS	$1,242,225	$1,242,225
CHICAGO/WHEELING PAL-WAUKEE	MASTER PLAN UPDATE; REMOVE OBSTRUCTION; CONSTRUCT TAXIWAY AND APRON (DESIGN ONLY); LAND FOR DEVELOPMENT AND APPROACHES	$7,290,000	$7,290,000
KANKAKEE GREATER KANKAKEE	MASTER PLAN UPDATE; EXTEND AND LIGHT RUNWAY AND TAXIWAY; APPLY POROUS FRICTION COURSE; CONSTRUCT AND LIGHT TAXIWAYS; EXPAND APRON; INSTALL RUNWAY, TAXIWAY AND APRON LIGHTING; LAND FOR DEVELOPMENT AND APPROACHES; INSTALL FENCING; IMPROVE DRAINAGE	$3,548,614	$3,548,614
PEORIA GREATER PEORIA	MASTER PLAN UPDATE (ENVIRONMENTAL ASSESSMENT); RELOCATE PUBLIC ROAD FOR RUNWAY EXTENSION; LAND FOR DEVELOPMENT AND APPROACHES	$1,064,879	$1,861,830

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LOCATION/ AIRPORT	WORK DESCRIPTION	DISCRETIONARY PORTION	TOTAL FEDERAL FUNDS
WEST CHICAGO DUPAGE	CONSTRUCT AND LIGHT TAXIWAY AND APRON	$1,213,801	$1,213,801
	SUB TOTALS	$17,643,641	$32,656,812
INDIANA			
EVANSVILLE EVANSVILLE DRESS REGIONAL	CONSTRUCT (PHASE I) TAXIWAYS, APRON, ACCESS AND SERVICE ROADS FOR NEW TERMINAL AREA	$1,100,000	$1,720,000
FORT WAYNE FORT WAYNE MUNICIPAL (BAER FIELD)	EXTEND AND LIGHT TAXIWAY	$1,777,257	$1,777,257
INDIANAPOLIS INDIANAPOLIS INTERNATIONAL	CONSTRUCT TAXIWAYS AND APRON; RECONSTRUCT ROAD	$2,052,878	$6,544,322
	SUB TOTALS	$4,930,135	$10,041,579
KANSAS			
CHANUTE CHANUTE MARTIN JOHNSON	RECONSTRUCT RUNWAY AND TAXIWAY; OVERLAY TURNAROUND; IMPROVE DRAINAGE; LAND FOR APPROACHES	$1,026,000	$1,026,000

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LOCATION/ AIRPORT	WORK DESCRIPTION	DISCRETIONARY PORTION	TOTAL FEDERAL FUNDS
NEWTON NEWTON-CITY-COUNTY	CONSTRUCT RUNWAY; SEAL COAT RUNWAY AND TAXIWAY; INSTALL RUNWAY AND TAXIWAY LIGHTING; EXPAND APRON; INSTALL FENCING; RELOCATE UTILITIES	$1,507,847	$1,507,847
OLATHE JOHNSON COUNTY INDUSTRIAL	CONSTRUCT ACCESS ROAD (PHASE I)	$1,728,000	$1,728,000
WICHITA WICHITA MID-CONTINENT	RECONSTRUCT AND LIGHT TAXIWAYS AND APRON; EXTEND AND LIGHT TAXIWAY	$3,090,487	$3,679,460
	SUB TOTALS	$7,352,334	$7,941,307

KENTUCKY

LOCATION/ AIRPORT	WORK DESCRIPTION	DISCRETIONARY PORTION	TOTAL FEDERAL FUNDS
LOUISVILLE STANDIFORD FIELD	ACQUIRE CRASH/FIRE/RESCUE EQUIPMENT; CONSTRUCT TAXIWAY AND APRON	$1,196,200	$1,196,200
LOUISVILLE STANDIFORD FIELD	CONSTRUCT APRON	$1,332,959	$1,913,012
	SUB TOTALS	$2,529,159	$3,109,212

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LOCATION/ AIRPORT	WORK DESCRIPTION	DISCRETIONARY PORTION	TOTAL FEDERAL FUNDS
LOUISIANA			
BATON ROUGE METROPOLITAN/RYAN FIELD	CONSTRUCT RUNWAY (PHASE II) AND TAXIWAYS; INSTALL RUNWAY AND TAXIWAY LIGHTING; INSTALL VISUAL APPROACH AIDS	$1,869,935	$2,709,200
	SUB TOTALS	$1,869,935	$2,709,200
MARYLAND			
BALTIMORE GLENN L. MARTIN STATE	PAVE AND LIGHT TAXIWAY	$1,299,997	$1,356,984
	SUB TOTALS	$1,299,997	$1,356,984
MASSACHUSETTS			
BOSTON GENERAL EDWARD L. LOGAN INTERNATIONAL	LAND FOR NOISE COMPATIBILITY	$1,002,587	$1,065,115
	SUB TOTALS	$1,002,587	$1,065,115

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                                                                       TOTAL
     LOCATION/                      WORK                DISCRETIONARY  FEDERAL
      AIRPORT                   DESCRIPTION                PORTION     FUNDS

MICHIGAN
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DETROIT                 CONSTRUCT AND LIGHT TAXIWAYS     $1,305,000  $1,305,000
GROSSE ILE
MUNICIPAL


                                  SUB TOTALS             $1,305,000  $1,305,000

MINNESOTA
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MINNEAPOLIS             CONSTRUCT AND LIGHT TAXIWAY      $1,008,750  $1,008,750
MINNEAPOLIS-ST PAUL
INTERNATIONAL


ST PAUL                 REMOVE OBSTRUCTIONS;             $2,869,830  $2,869,830
ST PAUL DOWNTOWN        CONSTRUCT AND LIGHT RUNWAY AND
HOLMAN FIELD            TAXIWAYS; RECONSTRUCT RUNWAY
                        AND TAXIWAY INTERSECTIONS;
                        CONSTRUCT ELECTRICAL VAULT;
                        INSTALL VISUAL APPROACH AIDS

                                  SUB TOTALS             $3,878,580  $3,878,580

MISSOURI
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ST LOUIS                OVERLAY RUNWAY; CONSTRUCT        $5,000,000 $11,100,471
LAMBERT-ST LOUIS        APRON AND SERVICE ROAD; LAND
INTERNATIONAL           FOR NOISE COMPATIBILITY


                                  SUB TOTALS             $5,000,000 $11,100,471
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                                                                              TOTAL
     LOCATION/                          WORK                 DISCRETIONARY   FEDERAL
      AIRPORT                        DESCRIPTION                PORTION       FUNDS

NEVADA
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LAS VEGAS                LAND FOR NOISE COMPATIBILITY      $3,500,000   $5,939,846
MC CARRAN
INTERNATIONAL


RENO                     LAND FOR NOISE COMPATIBILITY      $2,500,000   $6,002,880
RENO CANNON
INTERNATIONAL


                                  SUB TOTALS               $6,000,000  $11,942,726

NEW HAMPSHIRE
--------------------

BERLIN                   REMOVE OBSTRUCTIONS;              $1,114,128   $1,114,128
BERLIN MUNICIPAL         RECONSTRUCT RUNWAY AND RUNWAY
                         LIGHTING

                                  SUB TOTALS               $1,114,128   $1,114,128

NEW JERSEY
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NEWARK                   CONSTRUCT APRON                   $3,249,992   $3,249,992
NEWARK
INTERNATIONAL


                                  SUB TOTALS               $3,249,992   $3,249,992
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LOCATION/ AIRPORT	WORK DESCRIPTION	DISCRETIONARY PORTION	TOTAL FEDERAL FUNDS
NEW MEXICO			
ALBUQUERQUE ALBUQUERQUE INTERNATIONAL	RECONSTRUCT AND LIGHT RUNWAY; CONSTRUCT AND LIGHT TAXIWAYS; RELOCATE NAVAIDS	$4,414,507	$11,600,000
	SUB TOTALS	$4,414,507	$11,600,000
NEW YORK			
BUFFALO GREATER BUFFALO INTERNATIONAL	INSTALL RUNWAY SIGNS; CONSTRUCT TAXIWAYS AND APRONS; DEMOLISH ABANDONED FUEL FARM; IMPROVE DRAINAGE	$2,552,178	$5,268,620
FARMINGDALE REPUBLIC	CONSTRUCT TAXIWAY	$1,817,100	$1,817,100
NEW YORK JOHN F KENNEDY INTERNATIONAL	SOUNDPROOF SCHOOLS FOR NOISE COMPATIBILITY	$1,125,000	$2,444,240
NEW YORK JOHN F KENNEDY INTERNATIONAL	CONSTRUCT, LIGHT AND SIGN TAXIWAYS (PHASE I)	$2,000,000	$4,004,503

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LOCATION/ AIRPORT	WORK DESCRIPTION	DISCRETIONARY PORTION	TOTAL FEDERAL FUNDS
NEW YORK JOHN F KENNEDY INTERNATIONAL	CONSTRUCT, LIGHT AND SIGN TAXIWAYS (PHASE II)	$1,150,009	$3,667,000
NEW YORK DOWNTOWN MANHATTAN	RECONSTRUCT HELIPORT	$2,245,000	$2,245,000
PLATTSBURGH CLINTON COUNTY	REHABILITATE RUNWAY AND OVERLAY RUNWAY SHOULDERS; INSTALL RUNWAY LIGHTING	$1,043,676	$1,043,676
	SUB TOTALS	$11,932,963	$20,490,139
NORTH CAROLINA			
RALEIGH RALEIGH-DURHAM	CONSTRUCT TAXIWAYS AND APRONS (SITE PREPARATION)	$4,000,000	$4,000,000
	SUB TOTALS	$4,000,000	$4,000,000
OHIO			
AKRON AKRON-CANTON REGIONAL	GROOVE RUNWAY; EXTEND AND LIGHT RUNWAY AND TAXIWAY (PHASE II); OVERLAY RUNWAY; CONSTRUCT SERVICE ROAD; INSTALL FENCING	$1,734,110	$2,462,274

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CLEVELAND CLEVELAND HOPKINS INTERNATIONAL	SOUNDPROOF SCHOOLS FOR NOISE COMPATIBILITY	$1,144,000	$1,496,000
CLEVELAND CLEVELAND HOPKINS INTERNATIONAL	CONSTRUCT AND LIGHT TAXIWAY	$1,875,000	$2,062,500
CLEVELAND CLEVELAND HOPKINS INTERNATIONAL	LAND FOR NOISE COMPATIBLITY; RELOCATION ASSISTANCE	$2,500,000	$2,500,000
WILLOUGHBY LOST NATION MUNICIPAL	ACQUIRE PRIVATE AIRPORT	$3,483,000	$3,483,000
	SUB TOTALS	$10,736,110	$12,003,774
OKLAHOMA			
OKLAHOMA CITY WILL ROGERS WORLD	LAND FOR NOISE COMPATIBILITY	$1,820,000	$1,820,000
OKLAHOMA CITY WILL ROGERS WORLD	EXTEND TERMINAL APRON INCLUDING RELOCATION OF FUEL SATELLITE; INSTALL APRON LIGHTING	$2,000,000	$4,425,000

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LOCATION/ AIRPORT	WORK DESCRIPTION	DISCRETIONARY PORTION	TOTAL FEDERAL FUNDS
TULSA TULSA INTERNATIONAL	LAND FOR NOISE COMPATIBILITY	$2,500,000	$2,500,000
	SUB TOTALS	$6,320,000	$8,745,000
OREGON			
MULINO MULINO	CONSTRUCT RUNWAY AND TAXIWAYS; LAND FOR DEVELOPMENT AND APPROACHES; RELOCATION ASSISTANCE; INSTALL FENCING	$2,500,000	$2,500,000
	SUB TOTALS	$2,500,000	$2,500,000
PENNSYLVANIA			
LATROBE WESTMORELAND COUNTY	REMOVE OBSTRUCTIONS; EXTEND RUNWAY AND TAXIWAY (PHASE II); OVERLAY, GROOVE AND LIGHT RUNWAY; RELOCATE VISUAL APPROACH AIDS; LAND FOR APPROACHES	$2,199,600	$2,199,600
WASHINGTON WASHINGTON COUNTY	EXTEND RUNWAY AND TAXIWAY (PHASE II)	$1,644,000	$1,644,000
WILKES-BARRE/SCRANTON WILKES-BARRE/SCRANTON	EXTEND RUNWAY (PHASE II)	$1,900,000	$3,442,710

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WILKES-BARRE/SCRANTON WILKES-BARRE/SCRANTON	EXTEND RUNWAY (SITE PREPARATION); LAND FOR DEVELOPMENT; RELOCATION ASSISTANCE	$3,500,000	$4,201,232
	SUB TOTALS	$9,243,600	$11,487,542
SOUTH DAKOTA			
RAPID CITY RAPID CITY REGIONAL	CONSTRUCT APRON (PHASE I); CONSTRUCT TERMINAL BUILDING	$2,243,156	$3,786,739
	SUB TOTALS	$2,243,156	$3,786,739
TENNESSEE			
NASHVILLE NASHVILLE METROPOLITAN	CONSTRUCT TAXIWAY AND APRON (SITE PREPARATION); CONSTRUCT ACCESS ROAD	$5,424,800	$5,424,800
NASHVILLE JOHN C TUNE (NEW)	LIGHT OBSTRUCTIONS; EXTEND RUNWAYS, TAXIWAYS AND ACCESS ROAD; INSTALL VISUAL APPROACH AIDS; LAND FOR DEVELOPMENT; INSTALL FENCING	$1,017,115	$1,017,115
	SUB TOTALS	$6,441,915	$6,441,915

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TEXAS			
AUSTIN AUSTIN EXECUTIVE	CONSTRUCT TAXIWAYS AND APRON; INSTALL RUNWAY, TAXIWAY AND APRON LIGHTING; INSTALL VISUAL APPROACH AID AND BEACON; RELOCATE UTILITIES AND FUEL STORAGE FACILITIES; CONSTRUCT ELECTRICAL VAULT; IMPROVE DRAINAGE	$1,663,317	$1,663,317
CONROE MONTGOMERY COUNTY	EXTEND, OVERLAY AND LIGHT RUNWAY; IMPROVE RUNWAY SAFETY AREA; EXTEND AND LIGHT TAXIWAY; IMPROVE DRAINAGE; INSTALL FENCING	$1,141,154	$1,141,154
DALLAS-FT WORTH DALLAS-FORT WORTH INTERNATIONAL	ACQUIRE CRASH/FIRE/RESCUE EQUIPMENT; CONSTRUCT CRASH/FIRE/RESCUE BUILDING; CONSTRUCT SERVICE ROAD	$1,400,000	$2,400,000
DALLAS-FT WORTH DALLAS-FORT WORTH INTERNATIONAL	CONSTRUCT AND EXTEND APRONS	$2,100,000	$2,100,000
FORT WORTH SOUTH FORT WORTH (NEW)	LAND FOR NEW RELIEVER AIRPORT (PHASE V)	$2,250,000	$2,250,000

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FORT WORTH SOUTH FORT WORTH (NEW)	RELOCATE POWER LINES (PHASE II) (CONSTRUCTION AND DESIGN)	$1,250,000	$1,250,000
FORT WORTH SOUTH FORT WORTH (NEW)	CONSTRUCT AIRPORT (SITE PREPARATION); RELOCATE SERVICE ROAD	$1,619,475	$1,619,475
HOUSTON INTERCONTINENTAL	PAVE, GROOVE AND LIGHT RUNWAY; PAVE AND LIGHT TAXIWAYS, APRONS AND SERVICE ROADS; INSTALL RUNWAY AND TAXIWAY LIGHTING; RELOCATE UTILITIES; INSTALL WIND INDICATORS AND SIGNS; INSTALL FENCING	$7,500,000	$22,300,000
HOUSTON WILLIAM P. HOBBY	RECONSTRUCT AND EXTEND TAXIWAYS; INSTALL AND REHABILITATE TAXIWAY LIGHTING; INSTALL APRON LIGHTING; MODIFY ELECTRICAL VAULT; RELOCATE VISUAL APPROACH AIDS	$1,700,000	$2,670,754
SEALY SEALY REGIONAL (NEW)	CONSTRUCT RUNWAY, TAXIWAYS, APRON AND ACCESS ROAD (SITE PREPARATION); LAND FOR DEVELOPMENT; INSTALL FENCING	$1,500,000	$1,500,000

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WEATHERFORD WEATHERFORD MUNICIPAL (NEW)	CONSTRUCT RUNWAY, TAXIWAY, APRON AND ACCESS ROAD; INSTALL RUNWAY LIGHTING INCLUDING VAULT AND WIND INDICATORS; LAND FOR DEVELOPMENT AND APPROACHES; RELOCATE POWERLINES	$2,300,000	$2,300,000
	SUB TOTALS	$27,950,230	$44,720,984
WASHINGTON			
EVERETT SNOHOMISH COUNTY/PAINE FIELD	REMOVE OBSTRUCTIONS; CONSTRUCT RUNWAY (SITE PREPARATION) AND APRON; LAND FOR DEVELOPMENT AND APPROACHES; INSTALL FENCING	$2,497,579	$2,497,579
FRIDAY HARBOR FRIDAY HARBOR	CONSTRUCT RUNWAY, TAXIWAY AND APRONS; INSTALL RUNWAY LIGHTING AND VISUAL APPROACH AIDS; LAND FOR DEVELOPMENT	$1,900,000	$1,900,000
SEATTLE SEATTLE-TACOMA INTERNATIONAL	LAND FOR NOISE COMPATIBILITY	$2,000,000	$2,500,000
SEATTLE BOEING FIELD/KING COUNTY INTERNATIONAL	REHABILITATE AND STRENGTHEN RUNWAY	$1,800,000	$1,800,000
	SUB TOTALS	$8,197,579	$8,697,579

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LOCATION/ AIRPORT	WORK DESCRIPTION	DISCRETIONARY PORTION	TOTAL FEDERAL FUNDS
WISCONSIN			
KENOSHA KENOSHA MUNICIPAL	CONSTRUCT AND LIGHT TAXIWAYS; CONSTRUCT APRON; IMPROVE LIGHTING; LAND FOR APPROACHES; RELOCATION ASSISTANCE	$1,380,960	$1,380,960
RACINE HORLICK-RACINE	REMOVE OBSTRUCTIONS; LAND FOR APPROACHES	$1,913,850	$1,913,850
	SUB TOTALS	$3,294,810	$3,294,810
WYOMING			
CHEYENNE CHEYENNE	RECONSTRUCT/REHABILITATE RUNWAY	$1,231,356	$1,624,770
	SUB TOTAL	$1,231,356	$1,624,770
	GRAND TOTAL	$222,952,275	$347,749,048

DISCRETIONARY GRANTS

Mr. **Lehman**. Would you also provide a breakdown of your discretionary grants for fiscal years 1982 through 1986 according to the type of project, similar to that included on page 522 of last year's hearing record?

[The information follows:]

Airport Improvement Program—Discretionary funds allocated to sponsors by work increments for all fiscal years

1. Planning	47,404,052
2. Safety and security (by regulation)	27,097,490
3. Landing area construction (includes noise work):	
Runways	390,099,389
Taxiways	243,448,405
Aprons	194,612,558
4. Noise control (excluding landing area):	
Land	110,302,663
Other	18,805,958
5. Lighting, navaids, weather equipment	75,387,424
6. Building:	
Terminal	3,207,859
Other	4,310,383
7. Land (other than noise)	150,827,462
8. Roadways	31,500,785
9. Miscellaneous	34,433,600
Total	1,331,438,028

UNEXPENDED OBLIGATIONS

Mr. **Lehman**. Would you update for the record the table on pages 523 and 524 of last year's hearing record showing projects for which obligations were incurred more than two years ago, and no cash expenditures have been made?

[The information follows:]

Airports Grants More Than 2 Years Old With No Payments Made

Location	Airport	Project No.	Federal Funds
Prescott, AZ	Ernest E. Love Field	0182	$ 105,000
Carlsbad, CA	Palomar	0376	163,800
Jackson, CA	Westover Field-Amador Co.	0283	237,773
Ontario, CA	Ontario Int'l	0479	225,000
Ontario, CA	Ontario Int'l	0581	1,168,382
Ontario, CA	Ontario Int'l	0183	5,100,000
Oxnard, CA	Oxnard	0283	189,885
Ramona, CA	Ramona	0183	54,279
San Diego, CA	Gillespie Field	0480	200,000
South Lake Tahoe, CA	Lake Tahoe	0183	164,782
Van Nuys, CA	Van Nuys	0179	332,709
New Haven, CT	Tweed-New Haven	0183	21,600
Gainesville, FL	Gainesville Regional	1079	239,440
Hollywood, FL	South Broward County	0182	62,600
Miami, FL	Maimi Int'l	0383	112,500
Tampa, FL	Tampa International	0182	4,477,180
West Palm Beach, FL	Palm Beach County Park	0281	144,441
West Palm Beach, FL	Palm Beach County Park	0183	771,206
West Palm Beach, FL	West Palm Beach Int'l	0182	2,781,678
Winter Haven, FL	Winter Havens Gilbert	0183	41,914
Lafayette, GA	(New)	0183	29,538
Hanapepe, HI	Port Allen	0182	158,966
Carbondale, IL	Southern Illinois	0182	166,500
Chicago, IL	O'Hare Int'l	0283	1,650,000
South Bend, IN	Michiana Regional	0283	335,838
New Orleans, LA	New Orleans Int'l	1580	1,507,134
New Orleans, LA	New Orleans Int'l	1680	1,305,000
New Orleans, LA	New Orleans Int'l	0282	187,500
Reserve, LA	St. John	0182	495,000
Norridgewock, ME	Central Maine	0182	108,000
Maine	State Airport System Plan	S183	39,046
Islesboro, ME	Isleboro	0183	139,000
Boston, MA	Logan Int'l	0278	50,400
Boston, MA	Logan Int'l	0483	68,625
Boston, MA	Logan Int'l	0983	500,000
Three Rivers, MI	Three Rivers Municipal	0183	65,969
Rochester, MN	Rochester Municipal	0183	1,383,429
Las Vegas, NV	McCarren Int'l	0183	7,818,208
Rochester, NH	Skyhaven	0182	174,113
Atlantic City, NJ	Bader	0283	460,201
Monmouth, NJ	Allaire	0183	7,552,426
Farmingdale, NY	Republic	0780	560,938
Monticello, NY	Sullivan County Int'l	0379	43,532
Newburgh, NY	Stewart	0381	457,235

Location	Airport	Project No.	Federal Funds
New York, NY	JFKennedy Int'l	0182	1,104,000
New York, NY	LaGuardia Int'l	0283	966,400
Saratoga, NY	Saratoga County	0182	291,852
Schenectady, NY	Schenectady County	0283	315,000
Syracuse, NY	Syracuse-Hancock Int'l	1180	326,270
Utica, NY	Oneida County	0182	212,500
Utica, NY	Oneida County	0283	177,279
Louisburg, NC	Franklin County	0183	60,075
Cleveland, OH	Cleveland Hopkins Int'l	0182	1,644,610
Cleveland, OH	Cleveland Hopkins Int'l	0283	480,000
Strongsville, OH	Strongsville	0183	62,893
Philadelphia, PA	Philadelphia Int'l	2781	637,500
San Juan, PR	International	0283	1,475,999
San Juan, PR	International	0383	1,653,740
Milbank, SD	Milbank Municipal	0182	70,200
Oneida, TN	Scott Municipal	0283	275,700
Ponape Island, TTI	Ponape Int'l	0183	200,000
Majuro Atoll, TTI	Marshall Island Int'l	0182	180,000
Majuro Atoll, TTI	Marshall Island Int'l	0283	225,000
Moen Island, TTI	Truk Int'l	0182	372,328
Babelthuap Island, TTI	Babelthuap/Koror	0183	140,000
Yap Island, TTI	Yap Int'l	0183	185,000
Corpus Christi, TX	Corpus Christi Int'l	1080	127,932
St. Croix, VI	Alexander Hamilton	0182	2,170,839
Barre-Montpelier, VT	Edward F. Knapp State	0376	283,500
Barre-Montpelier, VT	Edward F. Knapp State	0781	442,826
Morrissville, VT	Morrissville-Stowe State	0182	699,800
Rutland, VT	Rutland State	0781	220,000
Rutland, VT	Rutland State	0182	81,023
Winthrop, WA	Intercity	0182	36,000
Logan, WV	Logan County	0177	750,000
Logan, WV	Logan County	0278	150,000

UNLIQUIDATED OBLIGATIONS—TAMPA AND NEW ORLEANS

Mr. **LEHMAN**. Last year, it was indicated that Tampa International and New Orleans International Airports had unliquidated obligations of more than $4 million that were over two years old. What caused this delay?

[The information follows:]

At Tampa International the start of the unpaid project was delayed due to conflicting construction on the north/south runway. The unpaid project has been underway since last fall and payments are expected to begin by early summer.

At New Orleans a total of five projects are involved. Three of these have been amended and payments have begun on one project. There is no single principal cause for payment delays. In at least two cases, we have discussed submission of payment requests but the sponsor has not responded. All except one of the projects are in various states of on-going construction and additional payment requests are expected to be filed by late summer.

HONOLULU AIRPORT

Mr. **LEHMAN**. What is the status of the civil rights complaint regarding the long-term lease at Honolulu International Airport?

[The information follows:]

The civil rights complaint at Honolulu International was resolved late last summer and there are no further restrictions on grants in Hawaii.

NEW AIRPORTS

Mr. **LEHMAN**. Do you have any applications pending for new air carrier airports?

[The information follows:]

There are no preapplications currently on file for new commercial service airports.

PREAPPLICATIONS FOR NEW AIRPORTS

Mr. **LEHMAN**. Would you update the status of the new airport grant applications that were shown on page 526 of last year's hearing record?

[The information follows:]

Preapplications on File for New Airports—(Other than Commercial Service)

[In million of dollars]

	Amounts requested
Circle City, Alaska	$4.3
Melbourne, Arkansas	2.4
Rio Vista, California	[1] 3.1
Temecula, California	[1] 2.4
Wauchula, Florida	.5
Grinnell, Idaho	1.4
Osceola, Idaho	.8
Emmett, Idaho	.6
Sulphur, Louisiana	2.0
Pascagoula, Mississippi	[1] 4.3
Yazoo City, Mississippi	[1] 2.7
Bolivar, Missouri	.5
Doniphan, Missouri	.5
Lexington/Richmond, Missouri	2.0
Linn, Missouri	.1
Monett, Missouri	1.3
Lincolnton, North Carolina	[1] .3

	Amounts requested
North Wilkesboro, North Carolina	[1] 2.1
York, Nebraska	.7
Gaffney, South Carolina	3.3
Eagle Butte, South Dakota	.5
Fort Worth, Texas	[1] 7.8
Mount Vernon, Texas	1.6
Sealy, Texas	[1] 2.4
Richlands, Virginia	6.7
Woodbridge, Virginia	.1
Pipestem, West Virginia	2.4
Spencer, West Virginia	3.3
Total	60.1

[1] Projects started, request partially funded.

DEVELOPMENT GRANTS

Mr. LEHMAN. Would you update for the record the table on page 525 of last year's hearing record, showing how your development grants have been spent?

[The information follows:]

Airport Improvement Program—Federal funds allocated to sponsors by work increments for all fiscal years

1. Planning	65,314,773
2. Safety and Security (by regulation)	78,476,850
3. Landing area construction (includes noise work):	
Runways	792,410,204
Taxiways	571,136,853
Aprons	501,728,519
4. Noise control (excluding landing area):	
Land	200,629,631
Other	31,046,639
5. Lighting, NAVAIDS, weather equipment	191,204,272
6. Building	
Terminal	110,480,482
Other	33,019,301
7. Land (other than noise)	295,173,303
8. Roadways	212,975,500
9. Miscellaneous	94,093,654
Total	3,177,689,981

DALLAS-FORT WORTH AIRPORT

Mr. LEHMAN. Last July, it was reported that you were auditing $70 million in federal funds used for construction projects at Dallas-Fort Worth Airport since 1982. What were the results of this audit?

Mr. DONAHUE. The Dallas-Fort Worth audit is still in process. Our Departmental Office of Inspector General is involved in that review, to see if there were any irregularities in construction or fund control of projects funded under our grant program.

VIRGIN ISLANDS AIRPORT

Mr. LEHMAN. Please provide for the record a status report on the runway extension and terminal reconstruction projects at the Harry S. Truman Airport in St. Thomas, Virgin Islands.

Please include a cost breakdown showing total costs, discretionary and formula AIP costs, and other federal costs, by fiscal year.

Please also explain the reasons for the delay in terminal reconstruction, and give us an updated schedule for completion.

[The information follows:]

The current status of the new runway project at St. Thomas is as follows:

1. Contracts which are complete or are nearly complete:

    a. Site preparation for the airfield.
    b. Site preparation for the terminal building.
    c. Runway paving, about 2,400 feet.
    d. Taxiway paving including connecting taxiways, about 4,500 feet.
    e. All terminal and cargo aprons.

2. Terminal building:

    On January 21, 1986, the sponsor authorized initiation of construction on a new terminal building. The agreement calls for an 18-month construction period with the building scheduled for completion around July 1987.

3. New Construction:

    Plans and specifications for the following items of work are currently underway:

    a. Runway paving, about 2,500 feet.
    b. Taxiway paving, about 1,000 feet.
    c. Paving of an access road, about 3,000 feet.

    This work is scheduled for bidding in June 1986.

4. Future Construction:

    Upon relocation to the new terminal building, from the existing facility, the remaining portions of the airport can be completed.

Following is a breakdown of Federal costs to date for the new runway at St. Thomas:

Date	Federal Amount	Sponsor Funds	Purpose
June 1977	$ 1,343,414(F)	$ 149,268	Land - relocation of persons; interim ATC facility.
June 1978	35,096,897 (30,608,807(D)) (4,488,090(F))	6,042,614	Site preparation for new runway, taxiway and aprons.
June 1978	1,573,438(F)	174,827	Construct replacement housing; access road.

Sept. 1982	6,300,000 (5,270,460(D)) (1,029,540(F))	1,084,889	Construct apron, access road, water pump station and distribution system.
Sept. 1983	7,200,000 (5,976,886(D)) (1,223,114(F))	800,000	Construct apron, runway segment, (2000') taxiway segment, lighting, fencing.
July 1984	2,682,000 (1,157,830(D)) (1,524,170(F))	298,000	Relocate utilities.
April 1985	2,837,453(F)	315,272	Construct taxiway and apron, pave portion of new runway.
Nov. 1985	382,500(F)	42,500	Rehabilitate and groove runway.
Totals	57,415,702 (14,401,719(F)) (43,013,983(D))	8,907,370	

(D) = Discretionary
(F) = Formula

Many project delays were due to the complexity of the project and its requirement for equipment that was not readily available in the Caribbean. Some delays in terminal reconstruction were due to litigation over contractor selection methods. These problems are apparently resolved now and the present schedule indicates that the terminal will be completed in July 1987.

ST. CROIX AIRPORT

Mr. **Lehman**. Please also explain for the record the justification for expanding the runway at the St. Croix, Virgin Islands airport, the cost of this project, whether discretionary or formula AIP funds have been or will be used for this project.

[The information follows:]

A FY 1985 Department of Interior (DOI) authorization included funding for the design of a runway extension at St. Croix Airport. The Virgin Islands Port Authority (VIPA) received a $300,000 grant from DOI for this purpose and is proceeding with a design for a runway extension to 10,000 feet. The consultant is Bristol Chiles Associates. The design is 20% complete with final completion scheduled for August 1986. We understand VIPA has also received a $2 million short-term loan from DOI for construction. This will not cover the entire construction cost. The FAA has not funded this project because of lack of justification. The sponsor, however, believes an extension is necessary to attract international passengers.

REAPPORTIONMENT UNDER GRAMM-RUDMAN-HOLLINGS

Mr. **Lehman**. Mr. Coughlin?

Mr. **Coughlin**. How much has been distributed of the $925 million? Have you allocated or apportioned all of it, less the Gramm-Rudman reduction?

Mr. **Donahue**. I would like to submit that for the record, to give you the exact numbers. Generally, all of it has not been distributed because of considerations with Gramm-Rudman proposals still going on at FAA.

Generally, there are funds in each category still remaining at FAA headquarters.

Mr. **Coughlin**. Substantial amounts over and above Gramm-Rudman?

Mr. **Donahue**. No, sir, in the vicinity of 20 percent or less.

Mr. **Coughlin**. Thank you, you will detail that for the record?

Mr. **Donahue**. Yes, sir.

[The information follows:]

The full $925 million was distributed in an interim apportionment of funds published early in the fiscal year prior to the Gramm-Rudman reductions. The present Gramm-Rudman level of $885.225M has not been reapportioned since the Administration is proposing further cuts to an $841.5M level. As soon as a new level is firm for the year, we will publish a reapportionment of funds.

Our allocations and obligations of the apportioned funds are proceeding at a good pace with $575 million allocated and $300 million obligated for the year to date.

Mr. **Lehman**. Mr. Carr?

GRANTS-IN-AID FOR AIRPORTS

Mr. **Carr**. Mr. Chairman, on the grants-in-aid for airports, and I have a concern, and I appreciate there are some problems, but it has to do with commercial interface at a metropolitan airport, and I also acknowledge that flight originating Part 135 charter operation out of a general aviation airport, someone may not have gone through the requisite level of security screening, probably didn't, most likely didn't, and then you have security interface problem at the commercial airport.

And my concern is that a lot of these airports are using grants-in-aid federal money contributed to by the GA pilot, to build facilities that are primarily of use for commercial airlines, gates, jetways, all the like, and all too often, the local airport really doesn't provide for a convenient means of interface between GA and commercial.

You got your FBO located over in East Jesus, about six miles away from the terminal and now that we are in an era of airline deregulation, some communities are losing their service in the whole transportation mix of Part 135 commercial.

You end up burdening someone who wants to take a Part 135 charter from a remote location, a community that doesn't have airline service, and they want to take a charter flight to a major metropolitan airport, and that airpline is denied access to the commercial gate area?

Admiral ENGEN. Clearly, times have changed in the United States. I, like you, have taken my airplane and driven right up in the past to the boarding area, and deplaned, and gone through the security of the airline, then got on board my ongoing commercial flight.

It is a matter of security, it really is, and as this Nation of ours is accommodating to the need for greater security, we are having to look closer and closer at the commercial airports to be sure that we provide the degree of security that we need.

General aviation is going to have to come under the scrutiny of this security apparatus, and we want to do this as unobtrusively as we can, but yet, with a measure of control.

I find that we are being required to monitor how people get from FBOs or general aviation terminals to the commercial terminals. We can ill afford to have people going through security in a different way than the predominant number of passengers, so we are torn between the desire for greater security and the desire to provide throughput for the general aviation traveler.

Mr. CARR. If people approach it from a can-do spirit, the FAA from reviewing grant proposals, and a variety of other things might give some encouragement to local planning authorities to providing a general aviation gate which is, or which would not exempt anyone from further screening before entering the commercial area.

But it seems to me we should have a requirement, where possible, of a general aviation gate in the main terminal.

Do it in a way if the local geography can be configured that way, and it is not for parking, simply for dropping people off and picking them up, and that person goes into the main terminal, and they got to go through the screening that everybody else does, maybe there are certain areas where there are space constraints and that cannot happen, but I just think, without a cooperative spirit here, we are using security as a way of walling off general aviation from what they have economically participated in.

Admiral ENGEN. Thank you, sir, I think your concern is real, and we will do all we can. We have a way of doing this, and I am supportive of what you are saying.

Mr. CARR. Where it can be done, it ought to be encouraged. Thank you, Mr. Chairman.

FACILITIES AND EQUIPMENT

Mr. **Lehman**.

Admiral, there are many in the aviation community who believe that the budget process as it is now structured has placed too much pressure on you to reduce your F&E appropriation request, and that safety has been adversely affected because of it.

Are you under too much pressure to reduce F&E spending, and has safety been affected because of it?

Admiral **Engen**. Clearly, safety has not been adversely affected. If anything, as we have gone along, the safety of the system is indeed improving, at least the capability to provide safety is improving with new equipment that is being brought along.

I am under pressure to reduce F&E spending. This is a fact of life. This pressure takes many forms. I find that there are many who would alter the National Air Space system plan.

Said in all candor, some would place-name things, and others would ask that I reconsider funding, and others would have me look at funding alternatives.

There is delay in procurement, which is a pressure in itself, and there are some who ask that I rejustify the plan. Simply speaking, I would like to implement the agreed-on plan and be given the dollars necessary to do this.

I think that there is a great proclivity to have us rejustify the plan each year, and this is a plan that was devised over 10 years. It was a plan approved by Congress and the Administration, and I find that fiscal pressures really require this re-justification.

Bottom line, sir, safety capability is improving, no doubt about that. Yes, there are pressures, and I must deal with those pressures.

SPENDING REDUCTIONS

Mr. **Lehman**. You are requesting $825 million for facilities and equipment in fiscal year 1987. Will this funding level force you to delay any procurements that are necessary from a safety standpoint? If so, what are they and how much do they cost?

Mr. **Frisbie**. It is our judgment that no safety procurements are being delayed at the $825 million level. By going off full funding on a couple of programs, we have been able to keep all these critical safety programs on schedule.

Mr. **Carr**. Could I ask a question?

Mr. **Lehman**. Mr. Carr.

Mr. **Carr**. We talk about safety. No one is going to sit in this room and come out and say safety is compromised. We have media here, an aviation industry that depends on consumer confidence.

Yet, we have—we are dropping the spending, or the proposal is to drop the spending. I think what we can do is talk about how we can be more efficient, and we are climbing the curve, all these other things, safety is overall being improved, but at some point—and you are a man of great integrity, right, and we can't force you to say something you don't want to say.

But I just think it is pushing the limits of credibility to suggest that we can defer all of this stuff which your predecessors, and indeed, yourself and other budget cycles have come to this Congress and suggested was mandatory for safe operation of the system, and now, because we have different marching orders, somehow or other, we can keep things as safe as before.

I would like you to ask the—I would like you to respond to the question, not from a question of safety, we are all for safety. Safety is our primary concern, this committee, and yours.

Let's not talk about safety. Even in the safest environment, we take risks, don't we? Let's talk about it from a risk standpoint. Does the cut in F&E do anything to risk?

Admiral **Engen**. Let me walk through that again, and talk about the decrease in spending. What we are really doing is reducing the spending on the less critical complements. We are delaying the acquisition of some components.

We are not delaying the bringing on of the host computer, and we are endeavoring to keep the advanced automated system on schedule.

We are bringing on the terminal radar replacement, and we want to bring on next generation radar, and that is being done. So when something such as Gramm-Rudman-Hollings comes along, and there is a cut legislated across the board on the agency, in F&E, we look to the future, Mr. Carr. What we are doing literally is operating the system today at better levels than we have in the past, but we are mortgaging our future. We are delaying the acquisition of this equipment for the plan. The plan would have been done in 1992-1993, but we are saying that we are accepting a delay. You are absolutely right. You cannot have a plan for $1.4 billion for F&E, and end up with $825 million without slipping some things.

In dealing with risk, let me assure you that I am not going to allow the system to become risky. That is just not going to happen. We are going to continue to do our job, and the air space system is indeed becoming more capable.

Forget the word safety, because it is a very difficult thing to talk about, but the air space system is indeed getting better. It is not going to get better as far as we want it to, when 1990 comes along.

Mr. **Carr**. To paraphrase, aren't we all saying, or you are saying, when it comes to the safety of a 757 on a three-mile approach, there is no compromise, but when it comes to the pursuit of, say, technical improvements that can have a payoff five, six years from now, we are accepting compromise?

We are accepting a higher degree of risk in the hope that maybe something else between now and then will fix that, or it will be on someone else's watch, something like that.

Admiral **Engen**. I would never, ever take actions and hope it will be on somebody else's watch. I don't operate that way.

Mr. **Carr**. I know you wouldn't.

Admiral **Engen**. It is overstated, but I think it is a statement of fact.

Mr. **Carr**. Thank you.

Mr. **Coughlin**. Mr. Chairman.

Mr. **Lehman**. Mr. Coughlin.

F&E REQUEST TO OMB

Mr. **Coughlin**. Can you provide for the record your detailed request to the Office of Management and Budget, and could you tell us now what dropped out of that request?

Admiral **Engen**. In ensuing testimony we probably can.

Mr. Frisbie.

Mr. **Frisbie**. Mr. Coughlin, certainly there are a number of things that have dropped out.

Mr. **Coughlin**. Tell us what dropped out.

Mr. **Frisbie**. Yes, sir. In the RML program, we dropped about $30 million. In the ASR program, we dropped $30 million.

In host computer, we dropped $40 million associated with spare parts for that machine. In the MLS area, we dropped about $47 million. I think those are the largest ones that we dropped out, Mr. Coughlin. What we have not done is delayed the delivery into the field.

What we have been using is flexibility that is either available in the present contracts we have, or flexibility that will be in the contracts we award, such that we will put the funding on in a different way, but we would not delay the implementation of those devices into the field.

Mr. **Coughlin**. Could you provide the Committee a copy of that list?

Mr. **Frisbie**. Yes, sir.

[The information follows:]

The following reductions were made to the budget submission to the Office of Management and Budget:

[In millions of dollars]

Radar Microwave Link System Replacement/Expansion/Networking	−$33.4
Provide Next Generation Weather Radar (NEXRAD)	−5.5
Improve En Route Radar	−1.2
Modernize ATC Computer with Host	−39.8
Provide Advanced Automation System	−20.0
Provide Weather Communications Processor	−15.0
Provide Communications Facilities Consolidation	−3.0
Replace Airport Surveillance Radar (ASR-4/5/6)	−37.2
Establish Airport Surveillance Radar	−27.2
Provide Terminal Doppler Weather Radar	−54.5
Provide Remote Maintenance Monitoring Capability	−25.2
Replace Terminal Air Traffic Control Facilities	−1.9
Modernize Airport Traffic Control Towers/Radar Approach Control Facilities	−27.0
Provide Flight Service Station Modernization	−13.4
Direction Finder Network Program	−13.5
Provide Microwave Landing System/Medium Intensity Approach Light System	−47.2
Establish Runway Visual Range	−2.8
Establish National Radio Communications System (NARACS)	−10.0
Purchase Land or Easement for Existing Facilities	−0.8
Provide Test Equipment	−1.0
Improve Air Traffic Control Tower Training Laboratory	−1.3
Provide System Engineering and Integration Support	−3.8
Provide Aircraft Avionics Systems	−7.0
Technical Center Environmental Cleanup Action	−2.0
Technical Center Automation Laboratory Reconfiguration	−1.0
Retrofit Medium Intensity Approach Light System with Threshold Lights	−2.2
Provide Medium Intensity Approach Light System	−4.1
Establish Additional Facilities for Straight-in Nonprecision Approaches	−0.1
Establish Runway End Identifier Lights	−0.5

Note.—Some of the above reductions were made to provide additional funds for two programs and to include several new programs in the budget.

IMPACT OF REDUCTIONS

Mr. **Coughlin**. Are these critical items?

Mr. **Frisbie**. If we were not to do them at all, or if we were delaying their implementation in the field, then they might fall into that category, yes, sir.

Admiral **Engen**. In the best of all worlds, we have an agreed plan, and it would be my desire to continue that plan, and do it on schedule. That is what our goal is.

Then comes a fact of life, Gramm-Rudman-Hollings cuts, and you endeavor to do the best you can with the plan, but it does have an impact on your plan.

Mr. **Coughlin**. You talked about the future payoff of some of these. Is this future payoff a safety payoff, or a capacity payoff?

Admiral **Engen**. You know, what is safety? Safety is operational capability. We are dealing with the improvement of the national air space system plan, to bring it up to the level we want it to be for the year 2000. By delaying that, we are not going to get there in 1992, but I am dedicated to getting there as soon thereafter as we can.

We have not lost any of our dedication, and I want to say that we have not decreased safety. We are slowing the ability to improve our operational capability.

We will do that in a way that will not affect safety. It will have a direct impact on capacity, in that capacity won't expand—these things will not occur as soon as we want them to.

Mr. **Carr**. Would you yield?

Mr. **Coughlin**. Certainly.

HOST COMPUTER

Mr. **Carr**. You mentioned that you dropped 40 million in spares for the host computer?

Mr. **Frisbie**. Yes, sir. Those spares were deferred from our 1987 request because of the fact that we will have contract maintenance on the host computer for the first few years after it is introduced.

We don't need the spare money this year.

[The following additional information was provided for the record:]

The FAA has chosen to exercise an option in the host computer acquisition contract for hardware maintenance in FY 1987 rather than to fund the cost of initial provision that is required if that maintenance is performed by FAA personnel. The decision to rely on contractor maintenance is for FY 1987 only and will be reconsidered for FY 1988 based on available funding levels and policy considerations.

Mr. **Coughlin**. Thank you, Mr. Chairman.

FULL FUNDING CONCEPT

Mr. **Lehman**. We understand there has been some debate within the administration about whether facilities and equipment projects should remain on a "full funding" basis.

And I believe your facilities and equipment appropriation request includes three items totaling $43 million that are not "fully funded."

In the past, the FAA has strongly defended this concept. And the GAO has said that the full funding concept improves management, minimizes construction delay, facilitates better budget estimates, and provides cost savings.

In fact, GAO believes the full funding concept ought to be expanded to other federal programs. In view of these benefits, why are you moving in the other direction?

Admiral **ENGEN**. Mr. Pozesky.

Mr. **POZESKY**. Mr. Chairman, clearly, we strongly do prefer to stay with the full funding approach. However, we have taken the flexibility of going off full funding and it has the effect of generating some money we can apply up front to other programs.

Clearly, when we do that, we all corporately sign off for the funding required in the subsequent years to deliver, install, and commission those facilities. We don't need the money initially, so by going off full funding, we can take the money and apply it up front to keep other programs on track. We have done that in this budget proposal with the three programs.

Mr. **LEHMAN**. Doesn't that disrupt the corporate position?

Mr. **POZESKY**. No, sir, we will be back requesting that that money be appropriated specifically for this purpose.

Mr. **LEHMAN**. It doesn't help our flexibility in being able to allocate that money to the right people at the right time, though?

Mr. **POZESKY**. I don't think it impacts our flexibility or the Committee's flexibility at all, sir.

What it does mean is when you authorize the funds for the initial procurement, you are in fact signing up, if you will, to authorize the funds for the installation and implementation. Otherwise you have equipment you cannot effectively use.

Mr. **LEHMAN**. We are committed or locked in, so to speak.

Mr. **POZESKY**. Yes, sir.

Mr. **LEHMAN**. Will taking these three programs off the full funding basis end up costing us more in the long run?

Mr. **POZESKY**. No, sir, we don't believe it will.

Mr. **LEHMAN**. Let's hope not. Please expand on your answer for the record.

[The information follows:]

Taking programs off full funding should not cost more in the long run. The funds that are not requested are for such requirements as site preparation, construction installation, provisioning, flight check and commissioning, and would not have been obligated in FY 1987. The costs of these requirements will be the same whether the funds are requested in FY 1987 or in the year that they will be obligated.

AIRWAY SCIENCE PROGRAM

Mr. **LEHMAN**. On page 1, you propose eliminating the bill language pertaining to demonstration grants to establish airway science programs. What is the status of past funds appropriated for this program, and why do you propose ending this program?

Admiral **ENGEN**. Mr. Goldman?

Mr. **GOLDMAN**. Over the past four years, since 1982, we have committed around $24 million to this grant program. We believe we have a very aggressive program, but in this era of tighter fiscal constraints, we felt it prudent not to expand the program in fiscal year 1987.

Mr. LEHMAN. Please provide for the record a status report on this program showing funds appropriated, funds obligated to date, what institutions have received funds, for what purposes, pending applications, and a timetable for future grant awards.

[The information follows:]

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AIRWAY SCIENCE PROGRAM STATUS TABLE

Fiscal Year	Institution	Grant Status	Appropriation	Obligated	Purpose
82	University of North Dakota *	Awarded	$4,000,000	$4,000,000	facilities/ equipment
83	University of North Dakota*	Awarded	2,750,000	2,750,000	facilities/ equipment
83	Hampton University	Awarded	2,250,000	2,250,000	facilities/ equipment
85	University of North Dakota*	Awarded	1,000,000	1,000,000	equipment
85	Florida Memorial College*	Awarded	1,000,000	1,000,000	facilities
85	Tennessee State University	Final grant plan to be submitted by institution	800,000	-	facilities/ equipment
85	Embry-Riddle Aeronautical University	Final grant plan to be submitted by institution	500,000	-	facilities
85	National University	Final grant plan to be submitted by institution	500,000	-	facilities/ equipment
85	Middle Tennessee State University	Final grant plan to be submitted by institution	871,044	-	facilities/ equipment
85	Purdue University	Conditional upon recognition of AWS curriculum	128,956	-	equipment
85/86	Texas Southern University	Conditional upon recognition of AWS curriculum/final grant plan to be submitted by institution	200,000 31,160**	-	facilities/ equipment
86	University of North Dakota*	Awarded	3,828,000**	3,828,000	facilities/ equipment
86	Delta State Univeristy*	Grant proposal to be submitted by institution	2,201,100**	-	facilities/ equipment
86	Florida Memorial College *	Grant proposal to be submitted by institution	2,871,000**	-	facilites/ equipment

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86	California State University	Conditional upon recognition of AWS curriculum/final grant plan to be submitted by institution	48,082**	-	equipment
86	Elizabeth City State University	Final grant plan to be submitted by institution	144,050**	-	equipment
86	Dowling College	Final grant plan to be submitted by institution	223,300**	-	facilities/ equipment
86	Ohio State University	Final grant plan to be submitted by institution	223,300**	-	Facilities/ equipment

*Congressionally designated awards

**Award includes 4.3% GRH reduction

To date, all appropriated grants funds have been awarded and there are no pending grant applications. The FAA will announce, evaluate, and award any future appropriated grant funds during the current budget year.

F&E STAFFING

Mr. **Lehman**. On page 6, would you explain why your facilities and equipment permanent position level would increase by 21 percent, from 962 to 1,162 positions, while at the same time your FTE level would decrease by 15 percent, from 1,134 to 964 staff years?

Mr. **Pozesky**. There are two ingredients to this. One is a transfer of positions into the F&E account from the RE&D account that reflects a recognition of the work being done by those people. There will be no net increase in those positions.

The second ingredient is a decrease in positions to reflect some management improvements we have made in our planning for installation and logistics activities.

Mr. **Lehman**. Please update the F&E staffing table on pages 528 and 529 of last year's hearing record by adding a 1987 column.

[The information follows:]

Virtually all Facilities and Equipment (F&E) positions are scheduled with regional activities concerning the establishment of facilities, the installation of equipment, and necessary construction. These positions are distributed throughout all regions and centers and some are administratively assigned to Washington headquarters but actually perform their duties as quality assurance inspectors at contractor facilities.

[Figures in parens indicate end-of-year employment]

	Authorized staffing	Field engineering and implementation	Quality assurance	Flight inspection [1]
Fiscal year:				
1980	1,332	1,197	98	37
	(1,143)	(1,030)	(78)	(35)
1981	1,015	910	75	30
	(926)	(831)	(67)	(28)
1982	984	880	75	29
	(858)	(763)	(68)	(27)
1983	962	858	75	29
	(865)	(769)	(69)	(27)
1984	962	858	75	29
	(911)	(827)	(63)	(21)
1985	962	858	75	29
	(935)	(845)	(65)	(25)
1986	962	858	75	29
	(873)	(778)	(68)	(27)
1987	1162	1058	75	29
	(1023)	(931)	(66)	(26)

[1] Includes airplane mechanics, pilots and technicians.

Note.—Some additional positions, funded as part of the FAAs general operations account, are located in the national headquarters and in regional offices to perform agency planning, programming, and engineering and also support the F&E program. However, F&E is only a part of their function.

F&E PERSONNEL COMPENSATION

Mr. **Lehman**. Please also update for the record the cost breakdown of full-time permanent facilities and equipment personnel compensation costs on page 529 of last year's hearing record by adding a 1987 column.

[The information follows:]

FTP F&E PERSONNEL COMPENSATION COSTS

[Dollar amounts in thousands]

	Fiscal year—					
	1982 (actual)	1983 (actual)	1984 (actual)	1985 (Actual)	1986 (est.)	1987 (est.)
Full-time permanent cost	$23,975	$23,201	$27,498	$33,573	$35,139	$29,932
FTE employment	877	837	864	1101	1118	948
FTE rate	$27.3	$27.7	$31.8	$30.5	$31.4	$31.5

Mr. **Lehman**. Please explain why the facilities and equipment personnel compensation rate actually declined from fiscal year 1985 to 1986 from $33,700 per staff year to $33,100 per staff year as reported on page 529 of last year's hearing record.

[The information follows:]

The decrease in the estimated FTE rate in fiscal year 1986 from fiscal year 1985 as shown in the table on page 529 of last year's hearing record, results from the proposed 5 percent governmentwide pay cost reduction for fiscal year 1986. The reduction, although not approved by Congress, represents the net adjustment to personnel compensation including a 5 percent pay cut which would have been effective for the period January 1, 1986, through September 30, 1986, and considers mandatory pay increases during fiscal year 1986.

The above table on FTP F&E Personnel Compensation Costs shows the staff year rate for FY 1986 as an increased amount over FY 1985 when reestimated to disregard the pay reduction.

OTHER F&E PERSONNEL COMPENSATION

Mr. **Lehman**. Please also update for the record the table on other F&E personnel compensation costs on pages 529 and 530 of last year's hearing record by adding a 1987 column.

[The information follows:]

OTHER PERSONNEL COMPENSATION

[Dollars in thousands]

	Fiscal year—				
	1983	1984	1985	1986	1987
Overtime	$1,296	$1,787	$2,540	$2,554	$2,077
Holiday pay	33	33	39	38	42
Sunday pay	4	3	6	6	6
Night differential	23	11	3	16	16
Hazardous pay	30	7	14	6	8
Employee awards	43	55	102	71	138
Total	1,429	1,869	2,724	2,691	2,287

F&E OBLIGATION RATES

Mr. **Lehman**. Please also update for the record the F&E obligation rate data found on pages 531 and 532 of last year's hearing record and add appropriate figures for fiscal year 1987.

Please add figures showing the obligation rate for the total F&E appropriation for each fiscal year.

[The information follows:]

F&E Appropriation
Percent of Obligations by Activity FY 1980-1987 Budget

	FY-80 %	FY-81 %	FY-82 %	FY-83 %	FY-84 %	FY-85 %	FY-86 %	FY-87 %	TOTAL %
FY 1980 Approp. (enact. 11/30/79)									
1. Air route traffic control centers	33.4	35.0	6.0	7.6	18.0				100.0
2. Airport traffic control towers	31.2	41.0	9.1	6.4	12.3				100.0
3. Flight service facilities	59.3	10.0	6.7	5.7	18.3				100.0
4. Air navigation facilities	35.4	15.6	14.9	8.7	25.4				100.0
5. Housing, utilities, and miscellaneous	65.3	26.0	7.1	1.6	---				100.0
6. Aircraft and related equipment	45.4	35.7	12.0	6.9	---				100.0
7. Development, test, and evaluation	95.7	4.2	---	0.1	---				100.0
FY 1981 Approp. (enact. 10/9/80)									
1. Air route traffic control centers		17.2	19.5	8.7	37.8	16.8			100.0
2. Airport traffic control towers		33.6	14.4	32.4	11.5	8.1			100.0
3. Flight service facilities		88.3	2.8	3.5	1.1	4.3			100.0
4. Air navigation facilities		50.0	7.9	13.6	8.1	20.4			100.0
5. Housing, utilities, and miscellaneous		14.8	12.7	30.1	41.1	1.3			100.0
6. Aircraft and related equipment		---	9.5	14.3	28.3	47.9			100.0
7. Development, test, and evaluation		96.8	3.2	---	---	---			100.0
FY 1982 Approp. (enact. 12/31/81)									
1. Air route traffic control centers			29.9	15.7	30.8	4.3	19.3		100.0
2. Airport traffic control towers			17.7	48.6	12.7	4.4	16.6		100.0
3. Flight service facilities			24.4	15.6	31.7	13.7	14.6		100.0
4. Air navigation facilities			19.8	11.8	32.1	10.9	25.4		100.0
5. Housing, utilities, and miscellaneous			42.3	23.8	4.2	3.0	26.7		100.0
6. Aircraft and related equipment			---	---	---	---	---		---
7. Development, test, and evaluation			91.0	9.0	---	---	---		100.0
FY 1983 Approp. (enact. 12/18/82)									
1. Air route traffic control centers				6.8	23.4	40.4	19.3	10.1	100.0
2. Airport traffic control towers				71.0	23.2	2.5	3.3	---	100.0
3. Flight service facilities				24.0	7.3	11.7	14.4	42.5	100.0
4. Air navigation facilities				11.4	31.6	19.9	12.0	25.1	100.0
5. Housing, utilities, and miscellaneous				8.0	63.7	10.0	10.3	8.0	100.0
6. Aircraft and related equipment				---	---	---	51.0	49.0	100.0
7. Development, test, and evaluation				76.0	3.9	4.1	11.8	4.2	100.0

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F&E Appropriation
Percent of Obligations by Activity FY 1980-1987 Budget

	FY-80	FY-81	FY-82	FY-83	FY-84	FY-85	FY-86	FY-87	TOTAL
FY 1984 Approp. (enact. 8/15/83)	%	%	%	%	%	%	%	%	%
1. Air route traffic control centers					7.1	65.8	15.6	5.8	94.2
2. Airport traffic control towers					10.7	40.4	8.2	20.3	79.7
3. Flight service facilities					5.7	25.4	16.6	26.1	73.8
4. Air navigation facilities					17.0	26.4	18.0	19.3	80.6
5. Housing, utilities, and miscellaneous					24.5	16.9	17.6	20.5	79.5
6. Aircraft and related equipment					---	---	29.4	---	29.4
7. Development, test, and evaluation					64.6	7.7	15.4	6.1	93.8
FY 1985 Approp. (enact. 10/12/84)									
1. Air route traffic control centers						82.5	17.5	---	100.0
2. Airport traffic control towers						36.6	11.8	17.2	65.6
3. Flight service facilities						18.2	53.3	9.5	81.0
4. Air navigation facilities						24.4	19.8	18.6	62.8
5. Housing, utilities, and miscellaneous						68.8	18.8	4.0	91.6
6. Aircraft and related equipment						---	100.0	---	100.0
7. Development, test, and evaluation						45.2	6.5	16.1	67.8
FY 1986 Approp. (enact. 12/19/85)									
1. Air route traffic control centers							23.9	33.8	57.7
2. Airport traffic control towers							33.2	30.9	64.1
3. Flight service facilities							---	---	---
4. Air navigation facilities							25.7	32.7	58.4
5. Housing, utilities, and miscellaneous							78.3	19.3	97.6
6. Aircraft and related equipment							45.9	13.5	59.4
7. Development, test, and evaluation							81.9	18.1	100.0
FY 1987 Approp.									
1. Air route traffic control centers								35.2	35.2
2. Airport traffic control towers								34.0	34.0
3. Flight service facilities								35.8	35.8
4. Air navigation facilities								34.7	34.7
5. Housing, utilities, and miscellaneous								34.1	34.1
6. Aircraft and related equipment								31.2	31.2
7. Development, test, and evaluation								26.9	26.9

FY 1986 F&E OBLIGATIONS

Mr. **Lehman**. Please also provide for the record a listing of any project to be funded by F&E appropriations prior to fiscal year 1986 for which no funds have yet been obligated, and explain the reason why in each instance.

[The information follows:]

Procure 19 Light Twin Turboprop Aircraft; procure 2 Light Long Range Jet Aircraft; procure 5 Special Mission Turboprop Aircraft; procure 1 Multipurpose Turboprop Aircraft: The Deputy Secretary designated the Fleet Conversion Program a major system acquisition subject to the Transportation Systems Acquisition Review Council (TSARC). The TSARC review and approval was not completed until November 1984.

Procure 19 MLS Receivers: These receivers are Government furnished property to support the new aircraft and were subject to the same TSARC review and approval.

YEAR-END F&E UNOBLIGATED BALANCES

Mr. **Lehman**. Please update for the record the tables on unobligated balances appearing on pages 533 and 534 of last year's hearing record.

[The information follows:]

	General	Trust Fund
Fiscal year:		
1970	$167,011	
1971	58,958	$97,829
1972		199,218
1973		291,919
1974		333,548
1975		326,041
1976		414,252
1976 (transition quarter)		287,095
1977		275,497
1978		261,393
1979		292,292
1980		364,533
1981		365,266
1982		454,336
1983		729,205
1984		1,113,893
1985		1,270,161
1986 (estimate)		1,332,150
1987 (estimate)		1,187,250

1/ Year-end unobligated balances represent carryover balances available for obligation in future years and exclude lapsing funds.

Note.--Because of the time necessary to procure and manufacture electronic equipment and contractual facilities, it is not possible to complete all authorized work within one year. The funds carried into future years are earmarked to complete specific ongoing projects. Examples of work financed by the carryover balances include installation of equipment, construction, flight checking of completed facilities, and checkout of facilities before going operational.

FACILITIES AND EQUIPMENT APPROPRIATION
UNOBLIGATED BALANCE EOY, FY 1986
(Projected as of December 31, 1985)
(in Thousands)

Project	No Year	FY 1982	FY 1983	FY 1984	FY 1985	FY 1986	Total
Air Route Traffic Control Facilities							
Long rage radar	0.0	0.0	7,249.0	5,480.0	28,726.0	49,320.0	90,775.0
Automation equipment	0.0	0.0	1,841.0	2,134.0	18,964.0	84,059.0	106,998.0
Other Center Facilities	0.0	0.0	10,177.0	13,260.0	23,257.0	19,007.0	65,701.0
Airport Traffic Control Facilities							
Terminal area radar	0.0	0.0	5,822.0	44,336.0	33,169.0	153,635.0	236,962.0
Terminal area automation	0.0	0.0	1,210.0	0.0	16,983.0	3,575.0	21,768.0
Other tower facilities	0.0	0.0	17,722.0	30,717.0	54,681.0	139,715.0	242,835.0
Flight Service Facilities	0.0	0.0	46,094.0	43,015.0	65,566.0	0.0	154,675.0
Air Navigation Facilities							
VOR/VORTAC/DME	0.0	0.0	5,396.0	8,174.0	3,527.0	19,834.0	36,931.0
Low and medium frequency facilities	0.0	0.0	271.0	3,435.0	0.0	602.0	4,308.0
Instrument and visual landing aids	0.0	0.0	18,111.0	19,658.0	82,974.0	85,676.0	206,419.0
Housing, utilities, and miscellaneous facilities	0.0	0.0	11,552.0	25,550.0	15,797.0	40,162.0	93,061.0
Aircraft and related equipment	0.0	0.0	10,704.0	47,650.0	1,000.0	1,500.0	60,854.0
Development, test, and evaluation facilities	0.0	0.0	417.0	5,812.0	2,878.0	1,756.0	10,863.0
Total	0.0	0.0	136,566.0	249,221.0	347,522.0	598,841.0	1,332,150.0

THE FACILITIES AND EQUIPMENT PROGRAM IS A "FULLY-FUNDED" PROGRAM. THE NATURE OF THIS TYPE PROGRAM RESULTS IN A SUBSTANTIAL CARRYOVER OF FUNDS RELATED TO FIELD CONSTRUCTION AND EQUIPMENT INSTALLATION DUE TO THE LONG-LEAD TIME ASSOCIATED WITH THE PROCUREMENT PROCESS AND EQUIPMENT MANUFACTURER. THESE FY-1986 UNOBLIGATED BALANCES, BY MAJOR PROGRAM AREA, DO NOT REFLECT SCHEDULE OR CONTRACT SLIPPAGES. FY-1986, EOY ESTIMATED UNOBLIGATED BALANCES INCLUDES PLANNED G/R EFFECTS AND MINOR PROGRAM ADJUSTMENTS.

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SLIPPED F&E PROJECTS

Mr. **Lehman**. According to information provided for the record last year, five large facilities and equipment projects had slipped from the planned contract award date for various reasons.

You had provided us with revised contract award data as follows: ARTS-II and TPK-42: June 1985; RML replacement: May 1985; Aircraft program: to be determined; and voice recorders: September 1985.

Please provide for the record an explanation of how well you did against your revised schedule for each project, and also include an explanation as to why the revised contract award dates weren't met for any of these projects.

[The information follows:]

Project	Revised Contract Award Date	Actual Award Date	Reason
Automated Radar Terminal System (ARTS II) Enhancements and TPX-42	June 1985	July 1985	One month delay experienced due to to administrative delay in documentation processing
Radar Microwave Link System Replacement	May 1985	May 1985	- - -
Replace Five and Nine Channel Voice Recorders	September 1985	February 1986	Delay in contract award was attributed to technical/legal delays in solicitation and contract award documentation.
19 Light Twin Turboprop Aircraft	To be determined	June 1986	- -
2 Light Long Range Jet Aircraft	To be determined	November 1986	- -
5 Special Mission Turboprop Aircraft	To be determined	January 1987	- -
1 Multipurpose Turboprop Aircraft	To be determined	April 1987	- -

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Mr. **Lehman.** Please also provide for the record a listing of all projects over $5 million for which funds are reserved yet unobligated and have slipped from the contract award data assumed in the original budget request.

Please show the originally planned contract award date, the currently planned contract award date, the reason for each slippage, and the dollar amount of each project.

[The information follows:]

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Please also provide for the record a listing of all projects over $5 million for which funds are reserved yet unobligated and have slipped from the contract award data assumed in the original budget request. Please show the originally planned contract award date, the currently planned contract award date, the reason for each slippage, and the dollar amount of each project.

Project	Planned Contract Award Date	Current Plan Contract Award Date	Reason	Amount
Procure 27 Various Aircraft	July 1983 through September 1983	June 1986 through April 1987	The Deputy Secretary designated the Fleet Conversion Program a major system acquisition subject to the Transportation Systems Acquisition Review Council (TSARC). The TSARC review and approval was not completed until November 1984.	$98,753,600

SLIPPAGE RATE

Mr. **Lehman**. For the last several years, you have been running about a 15-percent slippage rate for the contracts in your facilities and equipment program. What is the current figure for contract slippages, and if it has changed, why; and do you find your slippage rate to be acceptable for a program of this magnitude?

Mr. **Pozesky**. The rate has not changed. No slippage per se is acceptable, but we find this rate to be realistic in light of the kind of procurement protests that we experience to the GAO, certain sole source arrangements, the need to clarify the specifications, et cetera.

PROTESTED F&E CONTRACT AWARDS

Mr. **Lehman**. Please update for the record the breakdown of protested F&E contract awards found on page 767 of the fiscal year 1985 hearing record beginning on the date of that submission and continuing to the present date.

[The information follows:]

Project	Amount of award	Contractor's Name	Protestor	Date of Award	Date of protest	Reason for protest	Final disposition
ATC Data Display Systems	$ 108,340	Systems Atlanta, Inc.	Strobe Data, Inc.	9/18/85	10/2/85	Protested that low bidder was not a responsive or responsible bidder.	Protest denied.
Automated Weather Observing Systems	1,080,000	Amex Systems, Inc.	Wespercorp, Inc.	10/15/84	10/10/85	Protested because Amex Systems, Inc., a minority-owned small business, was acquired by Allied-Bendix 1 week after award.	Protest denied as untimely.
Solid State Modification Kits for Air Route Surveillance Radars	27,339,304	Norden Systems, Inc.	Metric Systems	8/15/85	4/16/85	FAA determined that Metric System's proposal was outside the competitive range for further negotiation.	Protest denied.
Airport Surface Detection Equipment	55,965,300	Norden Systems, Inc.	Cardion Electronics	9/30/85	4/4/85	Protested that FAA's specification was unduly restrictive after protester's submission was declared nonresponsive.	Protest denied.
Very high frequency direction finders	2,367,717	O.A.R. (subcontractor) to Systems and Applied Science Contractor	Rohde & Schwartz - Polarad, Inc.	5/29/85	6/10/85	O.A.R. was selected by prime contractor without pursuing a "best and final" offer from the protester.	Initial protest dismissed and request for reconsideration denied.
Standby Engine Generators	1,454,681	Power Systems	Essex Electro Engineers	8/9/85	6/24/85	Power Systems was allowed to correct a discrepancy in its option item bid which made Power Systems low bidder.	Protest dismissed because Essex Electric was not in line for award. Protest also denied as untimely.
See above	See above	See above	See Brown	8/9/85	7/7/85	See above	Protest was denied as untimely.
Color Weathergraphic Systems	401,400	WSI Corporation	Kavouras, Inc.	7/23/85	7/16/85	Protested that FAA's specification was restrictive and that a possible conflict of interest existed with another firm's subcontractor.	Protest denied as untimely and no conflict existed because firm cited did not bid.
Remote Radar Weather Display System	131,193	Alden Electronics	Kavouras, Inc.	9/4/85	9/11/85	Protested FAA's award to Alden after Alden made an unsolicited price reduction on basis that Kavouras should have been given a chance to make a similar reduction.	Protest denied.
See above	See above	See above	See above	N/A	11/4/85	Protested that FAA exceeded maximum order limitation for Alden's equipment.	Protest upheld; legal fees awarded.
Installation of glide slope and VASI	63,200	Schutten Construction	Morris Electric Co.	11/5/85	7/26/85	Protested because FAA rejected Morris' low bid. Failed to acknowledge receipt of Amendment No. 1 to the Invitation for Bids.	Protest denied.

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F&E OFFSETTING COLLECTIONS

Mr. **Lehman**. Please update the table on F&E offsetting collections appearing on page 537 of last year's hearing record and add a 1987 column.

[The information follows:]

ESTIMATED FEDERAL & NON-FEDERAL OFFSETTING COLLECTIONS FOR FY-1986 AND FY-1987

[In thousands]

	1986	1987
Federal:		
U.S. A.F.	$2,863	$3,126
U.S. Navy	624	604
U.S. Army	1,598	1,941
U.S. Coast Guard	12	631
NOAA/NWS	50	128
Department of Energy	33	9
Department of Justice	7	1
Other Government	30	35
Subtotal	$5,217	$6,475
Non-Federal:		
State, county, city government	$4,192	3,299
Airport/port authority	977	1,001
Airlines/corp/private	289	4
Foreign countries	0	221
Subtotal	$5,458	$4,525
Total collections	$10,675	$11,000

Note.—The total mix of agreements in FY-1986 for Federal and Non-Federal sources are based on actual agreements on hand and closely approximate the FY-1986 budget estimate of $11,000,000. No funding is requested for our reimbursable program as collections offset all obligations incurred.

NAS PLAN

Mr. **Lehman**. On page 3, you show a $42.699 million budget authority reduction in fiscal year 1986 due to Gramm-Rudman-Hollings. How did this reduction affect your schedule for implementing the NAS plan? Were any critical safety projects adversely affected?

Mr. **Pozesky**. No, Mr. Chairman. There are no safety programs we believe are affected. We had to take certain efficiencies and adjusted certain schedules, funded contracts perhaps a little earlier or a little later.

In essence, we think this adjustment has not affected our ability to keep the momentum of the program going.

Mr. **Lehman**. Will this $42.699 million reduction end up as a true savings to the taxpayer, or do you plan to make up the funding in future appropriations?

Mr. **Pozesky**. We have pushed that into future years, and we will probably be making it up in the outyears.

FY 1986 F&E REPROGRAMMING

Mr. **Lehman**. On page 12, you indicate that you plan to submit a reprogramming of fiscal year 1986 F&E funds. Why is this needed, and when will we receive it?

Mr. **Pozesky**. The language in the continuing resolution required that we take 4.3 percent from the House/Senate conference allowances. In certain of the programs, it was not practical to do that, so we have adjusted that and will be coming to the Committee asking for that authority to make those adjustments.

Mr. **Carr**. When?

Mr. **Pozesky**. The reprogramming is still in the FAA, and it will be out shortly.

Mr. **Peterson**. We estimate that that reprogramming will be out of the FAA within the next week, Mr. Chairman.

Mr. **Lehman**. Has this reprogramming impacted on your obligation rate?

Mr. **Peterson**. I don't believe it has affected our obligation rate, Mr. Chairman.

Mr. **Pozesky**. No, it has not thus far.

Mr. **Lehman**. On page 12, you indicate that you will request in your reprogramming letter a 35-percent reduction in the "long range radar" sub-activity for fiscal year 1986, from $104.068 million to $67.317 million. Why are you going to propose such a deep reduction in this account, and how will this reduction affect aviation safety?

Mr. **Pozesky**. It will not affect aviation safety. We needed and moved the funds into other sub-activities, recognizing the fact that the 3-D radar contract would not be awarded this fiscal year.

We have reduced funds in the 3D radar program; the Office of Budget left necessary engineering funds there. There were some other deferments in the sub-activity such as air traffic control radar beacon establishments—

Mr. **Carr**. Mr. Chairman, may I ask a follow-up? Why won't this impact on safety or increased risk?

Mr. **Pozesky**. Probably the most direct answer is that in our internal processing, the contracts for these will not be awarded until very late this fiscal year or early next fiscal year. The funds, because of the technical difficulties we have had and the delay in specification preparation, will not be needed until the beginning of next fiscal year.

The second point is that these radars really are replacement radars for an existing radar network we have. We are replacing them with solid-state equipment, so there will be no net capability change. We are taking advantage of the new solid-state equipment for the reliability and productivity savings. There is no major change in the operational capability from the old to the new future radars.

Mr. **Carr**. OK.

There are a couple more follow-up questions, with the Chairman's indulgence, and I am not a radar expert, but I am told that indeed there is a capability given. Are you disputing that?

Mr. **Pozesky**. In terms of air space surveillance, the range of today's radars and future radars will be, I think, 10 or 15 percent difference. There will be some increased ability to detect targets primarily for military application, because this will be a joint use radar for military, as well as civil applications. There will not be, Mr. Carr, any major wholesale change. There may be certain differences simply by taking advantage of today's technology, but the overall surveillance capability should not markedly change between these two situations.

COST SHARING WITH DOD

Mr. **Carr**. What was the technical difficulty you ran into?

Mr. **Pozesky**. We had some decisions to make in what is called the availability numbers. We are, in fact, still discussing the very detailed technical requirements which determine whether we want to provide an on-site technician or whether or not we want to increase reliability of the radars sufficiently so that we do not need to have a technician on-site.

That is really a cost-benefit tradeoff. It costs a certain amount of money to have the technicians there. If we put that money into equipment technology, we may be able to get rid of the on-site technician. Those are the kinds of things we are trading off. It is a joint procurement with the military, the military planning to fund about 50 percent of the cost of this system. It is the continental surveillance system that we jointly use with the DOD for both air traffic control and air defense purposes.

Mr. **Carr**. Have the DOD funds been appropriated for this?

Mr. **Pozesky**. I believe they have been requested but not appropriated. There are, I think, $19.2 million in the 1987 DOD budget to support the program.

Mr. **Carr**. Are they leaving it up to FAA to make the decision on the staffing versus equipment reliability question? Is that your decision, or is that DOD's decision as well?

Mr. **Pozesky**. It turns out in this case to be ours, because we have a joint-use agreement with the Air Force to maintain and operate this network for the government. It was agreed that one service should do that. The FAA agreed to maintain and operate it. So it really turns out to be an FAA decision on a cost-benefit basis. As long as we provide for the military the kind of service and performance that they need, how we maintain it is really our own cost-benefit decision internally in the FAA.

Mr. **Carr**. Why wouldn't you go with the more reliable and less staffing decision?

Mr. **Pozesky**. As a general rule, we would. In this particular case, the numbers are really in the third, fourth or fifth decimal place. We are talking about a liability of .9997 or .9996. When you are that far out on the tail, if the reliability curves, the cost of providing that extra little bit of reliability really gets to be very very high. It is just a cost-benefit tradeoff between the cost of leaving a technician there and the cost of actually building that kind of technology into the radar itself.

Mr. **Carr**. Are you factoring into that decision who is going to end up paying for it?

Mr. **Pozesky**. If you mean are we factoring in the cost difference, i.e., if we put it into the equipment, the FAA cost is only 50 percent. If that is your point, I have to say no. We are looking at the overall cost for the government of maintaining that system or building the reliability in.

Mr. **Lehman**. For 1986, why do you need the $67 million if you are not going to spend it anyhow?

Mr. **Pozesky**. We are going to request, I believe, a reprogramming of a portion of long range radar money. We are going to leave some in it for engineering support.

Mr. **Lehman**. Is the 67 itself going to be reduced?

Mr. **Pozesky**. Mr. Chairman, let me give you the precise answer for the record.

[The information follows:]

The Long Range Radar Subactivity contains a number of programs in addition to the Long Range Radar (LRR) Replacement Program (ARSR-4). The $67,317,400 retained in this subactivity after our planned reprogramming will fund other major programs such as Radar Microwave Link (RML) system Replacement/Expansion, $44.98 million; New Generation Weather Radar (NEXRAD), $4.3 million; and several projects to improve the en route radar facilities in addition tc what is required to continue our efforts on the LRR ARSR-4 program.

Mr. **Lehman**. We will find out next week, right?

Mr. **Pozesky**. Yes, sir.

AUTOMATION EQUIPMENT INCREASE

Mr. **Lehman**. All right. You indicate on page 12 that you are proposing increasing the "automation equipment" account by $24 million—from $79.041 million to $103.046 million. Why do you require 30 percent more than you had originally budgeted for this subactivity?

Mr. **Pozesky**. The three significant items in this area are: $10 million to support the implementation of the advanced automation system, the system's engineering and integration activity; $12.8 million for procurement of offshore data processing systems; and $1 million to replace a flight data processing system in Honolulu with a new system providing greater capacity.

Mr. **Lehman**. Similarly, on page 12, you plan to request $14.5 million more for the "other tower facilities" account than that provided after sequestration. Why is this increase necessary and what effect would these additional funds have on improving air safety?

Mr. **Pozesky**. These are for three items. Generally they are fixup items, mainly directed at correcting site-specific problems.

We also intend to purchase what is called the integrated communication switching system, and that is simply for cost-benefit. It is cheaper for us to purchase than continuing to lease. We want to improve some terminal communication systems with this item.

TOWER PROJECTS

Mr. **Lehman**. Please provide for the record a breakdown of the tower projects that would be funded under the reprogramming, including the cost of each project, the need for funding in fiscal year 1986, and the establishment or cost-benefit rating where applicable.

[The information follows:]

Answer: The fiscal year 1986 replace tower program after adjustment (reprogramming) includes the following projects.

Location	Funds required	Phase 1 discontinuance
Mobile, AL	$4,097,800	3.13
Scottsdale, AZ	2,228,500	1.80

Location	Funds required	Phase 1 discontinuance
Los Angeles, CA	$8,293,000	26.33
DeKalb Peachtree, GA	4,113,000	2.48
Kahului (Maui), HI	[1] 1,731,600	7.79
Grand Forks, ND	1,916,000	2.78
New York (JFK), NY	7,973,300	17.58
Middletown, PA	5,115,000	2.64

[1] FAA's share of the cost (per reimbursable agreement) with the State of Hawaii. In addition, FY 1983 funds in the amount of $971,000 were appropriated in support of this project.

INSTRUMENT VISUAL LANDING SYSTEMS

Mr. **Lehman**. Also on page 12, why will you propose reducing the "instrument and visual landing systems" account from $124.419 million to $115.746 million? And what effect will this reduction have on air safety?

[The information follows:]

The reduction is required to provide a source of funding to reinstate essential programs cut by congressional action, and to fund urgent new requirements that need to be initiated in FY 1986. Air safety will not be affected. The reduction is attributed to our ability to fund some of the MLS projects from prior year MLS funds that are available because of favorable terms of the MLS contract.

FULL FUNDING

Mr. **Lehman**. On page 13, you indicate that three projects totalling $43 million deviate from your policy of requesting appropriations on a "full funding" basis. Which projects are those, and why are you deviating from the normal F&E budget policy?

[The information follows:]

The three projects not on a "full funding" basis are: Radar Microwave Link (RML) System Replacement/Expansion/Networking; Replace Airport Surveillance Radar (ASR) 4/5/6; and Provide Terminal Doppler Weather Radar.

By not "full funding" these projects, additional programs were included in the budget request which enabled the National Airspace System (NAS) Plan to remain essentially on schedule.

LONG-RANGE RADAR PROGRAM

Mr. **Lehman**. On page 18, you are requesting $5 million for the long-range radar program. This is a joint FAA-DOD program. In the past, there has been a lack of coordination between DOD and FAA budget requests in certain instances. Can we be assured the fiscal year 1987 Defense budget contains $5 million for this project?

Mr. **Pozesky**. We believe the fiscal year 1987 budget actually contains almost $20 million for this project. I can provide the DOD appropriations code where we believe that money is located. It is code 3400, $200,000; code 3600, $1.0 million; and 3080, $18 million.

Let me say that our agreement with the Defense Department is to provide a 50-50 cost sharing at the bottom-line level. That does not mean that every year there will be an identical amount of money in the FAA request and the corresponding DOD request because that linkage will be very hard to maintain across this multiyear program. But there is agreement on a 50-50 cost sharing at the bottom line.

Mr. **Lehman**. Last year you requested $48.2 million for the long-range radar program. The House provided about $38 million for this project. But, according to your budget, page 18, only $3.3 million is actually needed in fiscal year 1986. Why has this program apparently slipped so badly?

Mr. **Pozesky**. This has been a difficult program to get joint use agreement with the military. As you recall, in fiscal year 1985, the FAA had money and the military didn't have money. We think we are locked together now. We did use certain of that money for program support, and we did use certain of that money for the long-range radar application in Alaska. The program is contained in our 1987 proposal, and we do believe now we have joint, both technical as well as budgetary, agreement with the military to continue on this program.

LRR REPLACEMENT MILESTONES

Mr. **Lehman**. I hope it is a happy marriage.

Please provide for the record a revised LRR replacement milestone breakdown similar to what appears on page 541 of last year's hearing record. Please also compare this to what you submitted last year and provide a detailed explanation of any slippages.

[The information follows:]

	Last year	Revised schedule
Request for proposals (RFP)	April 1986	October 1986.
Contract award	June 1987	October 1987.
First system installation	June 1990	February 1991.
Last system acceptance	December 1993	May 1994.

Note.—Changes were made to accommodate budgetary limitations.

RADAR MICROWAVE LINK

Mr. **Lehman**. On page 19, you are requesting $18.043 million to continue your radar microwave link replacement and expansion program. Your budget indicates that this request is one of those that is not "fully funded". To do so would require an additional $15.7 million. Could taking this progam off a "full funding" basis ultimately cost the taxpayers more money? If so, what is the range of potential cost increases we could see over the next three years?

Mr. **Pozesky**. Mr. Chairman, as I mentioned earlier, we do not believe taking these programs off full funding will result in any cost escalation, so the answer is no.

Mr. **Lehman**. Please update for the record the RML procurement milestones found on page 542 of last year's hearing record. Please also include a detailed explanation for any slippages from the timetable submitted last year, and give us an estimate of your confidence level for meeting your latest timetable.

[The information follows:]

Request for proposal:	3/84
Awards 308 facilities	5/85
Start 84 facilities FY-85	8/86
Start 198 facilities FY-86	9/86
Start 65 facilities FY-87	9/87

Start 158 facilities FY-88	9/88
Award route switching contract FY-89	3/89
Start 192 facilities FY-89	9/89
Program Completion	12/91

The slippages in the timetable submitted last year are the award of the route switching contract, the program completion date, the number of facilities planning for start in FY 1986 through FY 1988 and the addition of starts in FY 1989. All slippages are attributable to funding deferrals.

Our confidence is virtually 100% that we will complete the overall program by 12/91 if no further funding deferrals are made. Our confidence in starting the number of facilities in the fiscal years indicated is 50%-75%. This is due to the large number of site peculiar irregular conditions which are being reported in the contractor-conducted site surveys.

NEXT GENERATION WEATHER RADAR

Mr. **Lehman**. On page 20, you are requesting $31.9 million to initiate the procurement of the en route NEXRAD weather radar system. Would you briefly summarize the benefits NEXRAD will provide and explain whether this system is now developed to the point that it can be procured?

Mr. **Blake**. The benefits to the aviation users are both safety and economic benefits. The safety benefits relate to the identification and avoidance of severe weather hazards, and economic benefits to reduction of delay through better knowledge of wind shear lines and severe weather, which will impinge on the terminal area. The Department of Defense is looking for earlier warnings of severe weather in order to protect valuable aircraft property as well as personnel. For the general public, improved weather warnings will reduce the loss of property and damage to property and loss of life that accompanies the severe weather currents.

With regard to the development status, we are currently in the prototype test phase on that program. That will be completed in fiscal year 1986, and we are ready to award production contract, limited production contract, in early 1987.

Mr. **Lehman**. Please provide for the record a summary of your NEXRAD operational test and evaluation results to date.

[The information follows:]

Initial Operational Test and Evaluation, phase 1, (IOT&E-1) is scheduled for July through October 1986.

Initial Operational Test and Evaluation, Phase 2 (IOT&E-2) is scheduled for May through October 1987.

The primary objective of IOT&E-1 is to evaluate the operational effectiveness and suitability of the NEXRAD system prior to the decision to proceed into the limited production phase. IOT&E-1 will be conducted at each contractor's facility during the validation phase. IOT&E-2 will occur early in the limited production phase and will provide an additional evaluation of the NEXRAD operational capabilities in a more representative operational environment.

Mr. **Lehman**. Do you want to ask thirty-nine?

Mr. **Carr**. Yes, Mr. Chairman.

Mr. **Lehman**. Will you yield to him, Mr. Coughlin?

Mr. **Coughlin**. Absolutely.

Mr. **Carr**. This really folds into 39—well, did you finish 37?

Mr. **Lehman**. Yes.

NEXRAD COST EFFECTIVENESS

Mr. **Carr**. Is the en route NEXRAD procurement cost effective from your standpoint? If so, why?

Mr. **Blake**. Yes. The cost effectiveness of the procurement was evaluated in a study, and that report, dated June, 1983, concentrates on all the benefits and particularly the benefits of NEXRAD, and concludes the program has a benefit-to-cost ratio of about 11, and as reported in earlier testimony, about 49 percent of those benefits relate to aviation. And the hazards that we will be able to identify with that system that affect aircraft safety include icing, hail, tornados, convectives, microburst, and gust winds. So we expect to achieve a great deal of benefit from these systems.

Mr. **Carr**. Last year, we were told that the 60-20-20 NEXRAD cost sharing arrangement between the National Weather Service, DOD and FAA respectively had not been finalized. Has this arrangement now been finalized? If so, is FAA's share still 20 percent?

Mr. **Blake**. That is correct. That split was used specifically during the research development phase of the program. The plan breakout of funding for the production phase was National Weather Service 51 percent, FAA 20.7 percent and Department of Defense 28.3 percent. Now, our part, the 20.7, related to 20 percent funding for the network radars—there are 113 of those.

One-hundred percent of 14 offshore radars, and some 10 percent, 9.6 percent, of the meteorologists work station volume. And as you know, and as we discussed earlier, there is a proposal to fund the National Weather Service portion of the trust fund. If that were done, it would raise our contribution to 71.7 percent.

Mr. **Carr**. You say 60-20-20 was an RDT&E apportionment.

Mr. **Blake**. That is correct.

Mr. **Carr**. And the deployment was what?

Mr. **Blake**. Fifty-one for National Weather Service, 20.7 and 28.3.

Mr. **Carr**. How was this arrived at?

Mr. **Blake**. Our share of that was 20 percent of the network—the network has 113 radars, and 100 percent of some offshore radars for Hawaii, Alaska and Puerto Rico, and 9.6 percent of the meteorological work stations. Those are the ones that would be located in our facilities, our center weather service units. And the 28 percent for the military represents their unique needs, both inside and outside.

NOAA REQUEST FOR NEXRAD

Mr. **Carr**. Was the FAA aware of NOAA's request of the Appropriations Committee for 100 percent in fiscal year 1987 out of the trust fund?

Mr. **Blake**. I defer to Don.

Admiral **Engen**. I knew we were going to fund that portion, so in that context I guess I was aware. I didn't focus on who was part of it. I was just looking at my part of it.

Mr. **Carr**.Well, NOAA has asked the Appropriations Committee for $47 million out of the trust fund, 100 percent of their 1987 NEXRAD request.

Admiral **Engen**. We discussed this on Wednesday last, I believe, Mr. Carr, and I firmly feel there is a great deal to be derived for aviation out of the use of NEXRAD. In the past aviation has funded a lot of things that have been for the good of the nation. And in this case, I think it is appropriate. We are going to get a tremendous amount of usage out of those radars, and it is going to provide a great deal of benefit to aviation throughout the United States.

Mr. **Carr**. You have no quarrel from me or I think anybody else on the benefits. The real question, Admiral, is the law.

Admiral **Engen**. I think we discussed that as well. There needs to be authorization to do this, there needs to be legislation to do this. We haven't had that yet.

Mr. **Carr**. What number do you have for NEXRAD? What out of your request? Your request here before this committee, what number is that?

Mr. **Blake**. Approximately $31.7, I believe.

Mr. **Carr**. $31.7 million?

Mr. **Peterson**. $31.9 million from the F&E appropriation, and this appropriation is funded entirely from the trust fund, Mr. Carr.

Mr. **Carr**. So you got $31.9 million. And over in the Commerce Subcommittee, they are asking for $47 million out of the trust fund. Was it your testimony, then, that—if you add that up—if my other subcommittee were to grant that out of the trust fund, that the trust fund pays 71 percent—is that what your testimony was, 71 percent—and the DOD pays the rest?

Mr. **Blake**. 71.7.

Mr. **Carr**. The general taxpayer isn't paying anything.

Mr. **Blake**. He pays for the military part.

Mr. **Carr**. Except for the DOD portion.

Mr. **Blake**. That is correct.

Mr. **Carr**. But that is for DOD services, that is not for tornado warnings out in the plains or anything else. The people who buy airplane tickets and fuel their airplanes with the trust fund tax are paying for weather services to the farmers and everyone else who takes a benefit from the NEXRAD, is that correct?

Admiral **Engen**. I prefer to say they are paying for safe passage for their aircraft. We lost a Westwind three weeks ago due to extreme weather. It is being investigated right now. But we are going to be able to forecast that turbulence using NEXRAD. That will provide safety to the user.

TRUST FUNDING FOR NEXRAD

Mr. **Carr**. Admiral, what that suggests to me is that that is a stickup. Because aviation is going to make some good use out of this system, we are going to end up—we are getting stuck for the whole thing. I don't think it is this committee that has been forcing user fees on the administration, it is the administration that has come to the Congress and set user fees for everything under the sun. If we are going to have user fees, we had better apportion the cost.

And, frankly, I don't really give two hoots if—the real question here is not whether we are going to do something—we are going to do it. NEXRAD is a good program. The question is who is going to pay for it, under what system? I can appreciate your coming to this committee asking for trust fund monies, and you are within the authorization limit, but NOAA is totally outside the authorization limit. In other words, we ought to be going back to Mr. Smith's committee and saying "You have no authorization for anything that NOAA has asked you for." Is that correct under the law?

Admiral ENGEN. That is what the law says.

Mr. CARR. It says 34.1, and you are at 31.9. I suppose if they had a lot of chutzpah, they could ask for $3 million.

Admiral ENGEN. I am in a position of wanting to have a new and highly capable system for aviation throughout the United States. I think that we come to you with a request and when we come for legislative authority to do this, I guess that would be the time to decide whether in your wisdom you felt we could do it.

Mr. CARR. Well, I am going to defend your taking the money out of the trust fund from your portion, but my battle here isn't with you, it is with NOAA.

Admiral ENGEN. I understand.

Mr. CARR. That makes NOAA really a pickpocket artist. And I hope that we could, in a cooperative sense, generate some type of a letter or something to Neal Smith's committee outlining what the agreement for cost sharing is. And, essentially, your testimony adds up to the fact that aviation is going to make 20.9 percent of the use and is going to pay 71 percent of the cost. And I say that that violates not only Congressional intent as a technical thing, it violates the spirit of what the whole trust fund is about.

Now, just going further here, do you get a bill from NOAA every year? Do you get an invoice, the executive equivalent of an invoice that says "Here is what we have done for you, pay up in 30 days, or we are going to charge you interest"?

Mr. PETERSON. If I can, Mr. Carr. You read the authorization language last week which provides for a certain amount of "draw," if I may use the term, against the trust fund by NOAA. NOAA processes that draw directly with the Department of the Treasury; the FAA is not involved. Of course, the appropriation responsibility is under another subcommittee of appropriations, as you indicated.

AUTHORIZING LANGUAGE

Mr. CARR. Well, I may be missing something here, and lord knows I have missed things before. The law says the Secretary is authorized to reimburse National Oceanic and Atmospheric Administration from the funds, from the trust fund, for the cost.

Now, somewhere in that system there has got to be some checks and balances, and I would think, in my simpleton way, that that would mean that at the end of the year, the administrator of NOAA certifies some kind of statement to the administrator of the FAA that in the past year this is what we have provided you, now reimburse us, and you have then an opportunity to check and balance that statement, and you are telling me you don't.

Mr. PETERSON. Mr. Carr, as the FAA appropriation language is constructed in operations, the Congressional language allows for "X" amount to be drawn from the trust fund each year. For example, I believe in fiscal year 1986, before Gramm-Rudman, it was something like $446 million. Although I have not checked, I believe that the NOAA appropriation would contain somewhat the same type of language, which would allow a direct drawdown from the trust fund by NOAA pursuant to law.

Now, the numbers that you are reading from in terms of the authorization act were originally established for the reimbursement for Aviation Weather Services budgeted by NOAA under NOAA appropriations which more properly should be financed from the trust fund. Mr. Blake, I believe, might be able to expound on those types of services, if he would care to.

Mr. BLAKE. We do the direct draw from the trust fund which pays for the basic meteorological products we receive, observations and forecasts from the Weather Service. In addition, we do pay the meteorologists that sit at our Weather Service units in the air traffic control centers. We feel that is a valid charge.

Mr. CARR. You pay them out of the FAA account?

Mr. BLAKE. Yes.

Mr. PETERSON. That is correct, Mr. Carr. The last portion that Mr. Blake mentioned, NOAA representatives in FAA center facilities, are budgeted by the FAA under its operations appropriations in the air traffic program. The funds are then reimbursed to NOAA, because that is a direct benefit to the FAA for the performance of its mission.

Mr. CARR. I don't have any problem with that, it is just when you get to these apportionments, when you have a weather specialist at the center, you have got a 100 percent dedicated proposition. That is not something we are arguing about here.

What we are talking about, though, is on these apportioned costs. Essentially what I get out of what you just said, and what I have gotten out of hearings from my other subcommittee, is that NOAA will apply to the Congress for appropriations out of the trust fund and doesn't have to check with you for it, doesn't have to check perhaps with OMB for it, and they can get whatever they can get away with and that nobody is checking this thing out in the administration.

Admiral ENGEN. We are checking it out.

Mr. PETERSON. We are obviously quite aware of this, Mr. Carr. FAA does prepare the consolidated exhibit for the trust fund, and, as you pointed out last week, that initiative was proposed in the President's budget.

Mr. CARR. So you knew NOAA was coming to the Congress with a request for $47 million out of the trust fund.

Mr. PETERSON. And the President's budget so states. That is correct.

Mr. CARR. Well, that is even more perplexing. How can you propose a—I mean, we are talking big numbers here. You have got, I think it was $33 million. NOAA came to this trust fund for $33 million for just general Weather Services. Then, on top of that, you got—they asked for $47 million, 100 percent of their NEXRAD effort, then on top of that you are telling us that in your request to this committee you got $31.9 million out of the trust fund, and that adds up to, if I am correct, in rough figures here, that adds up to $112 million out of the trust fund, right?

Mr. **Peterson**. Yes, sir.

Mr. **Carr**. $112 million out of the trust fund for an authorization level of $34.9 million.

Mr. **Peterson**. No, sir. First of all, you mentioned three elements of cost. The authorization that you referred to was for NOAA aviation Services. That was what was envisioned by that particular authorization language.

The second element—FAA NEXRAD costs were always intended to be authorized and were so authorized by the amount prescribed by the Congress for the F&E authorization and FAA appropriation.

The third element, which is the NOAA cost of NEXRAD, as I think the point—

Mr. **Carr**. Where does it say NEXRAD in here?

Mr. **Peterson**. It does not, sir. However, the President's budget does use the term "NEXRAD".

Mr. **Carr**. Isn't the President obligated to follow the law? Where does it say in here? I am looking. Tell me, prove to me, where is the authority to take $70 million, $80 million out of the trust fund for NEXRAD?

Admiral **Engen**. What is being proposed, Mr. Carr, is that there would be legislation sought which would authorize this.

Mr. **Carr**. Is that legislation before the Congress?

Admiral **Engen**. Not yet.

Mr. **Carr**. Who has introduced it, where is it? Where is the proposal?

Admiral **Engen**. Before the monies can be expended, it must be so considered. I would like to come back and say the FAA is aware of the number of dollars that it is required to fulfill its obligation with respect to NEXRAD. I don't control the NOAA budget. I support, as I said to you before, though, that NEXRAD is vital to aviation and aviation safety, as I know you do, too.

So in that context, I believe it is in the nation's interest, to move forward. We would come to you for authorization to do this.

Mr. **Carr**. In other words, rearranging what we have all just said here, if I can summarize, you are allowing NOAA to come to the Congress asking for their 33 something as their reimbursement for cost for aviation-related services, and now both you and NOAA are asking the Congress in two separate committees to appropriate money that is not authorized yet. Is that what we are saying? Is that the summation of this whole thing?

Admiral **Engen**. I am not asking that. I am asking for my appropriation and the amounts I need to fulfill my obligation. I believe NOAA has come to you and requested the use of trust fund monies.

Mr. **Carr**. Here is my problem. We got $34.9 million of authority, and in three separate chunks we have got $112 million of requests. Now, who is operating under the authority, and who—which of you is asking for something above?

Admiral **Engen**. What we are trying to do, Mr. Carr, is to bring on NEXRAD and we didn't get it here as part of the NASA plan. I am dedicated to bringing along NEXRAD. What you see us trying to do is within the budget to bring NEXRAD along; we are looking for an avenue to do that.

Paul, have you got anything further you can add?

Mr. PETERSON. No, sir, other than to point out the $31.9 million the FAA is proposing in its F&E budget is within current law. It has been authorized by the Congress, as you know.

Mr. CARR. NEXRAD has been authorized by the Congress out of the trust fund.

Mr. PETERSON. The $31.9 million for NEXRAD contained in the FAA's budget, Mr. Carr, was part of an authorization level for the F&E appropriation made by the Congress in the Airport and Airways Act of about five years ago.

Mr. CARR. Well, we are going around. You are stating the virtues of NEXRAD, which is not in discussion here. I think we have—we have been double-teamed, Bill, between two subcommittees, and I think that we shouldn't approve in either one of these committees, we shouldn't approve anything until we sit around the table and get this straightened out, because the numbers—somebody is trying to do something here that isn't according to—even granted your statement, and I am willing to be shown where my knowledge isn't sufficient, believe you me, but even granting what you have said, that takes care of $60 million, or maybe $70 million. That doesn't take care of $112 million, and we are completely unaware of any request by the administration for additional authority to do anything else.

Admiral ENGEN. We would welcome the chance to sit down with you.

Mr. CARR. My strong feeling, Bill, is we should put this at zero, on hold, until the whole thing is straightened out.

NEXRAD FUNDING AUTHORIZATION

Mr. LEHMAN. Just to clarify what is authorized, two-thirds of it still is not authorized, is that correct?

Mr. PETERSON. There is, I believe, two-thirds that is—two of the three elements are authorized, Mr. Chairman. The final one third is the NOAA-approved budgeted amount, which I think Mr. Carr indicated was $47 million, is contained as an initiative in the President's budget, but is not authorized pursuant to present law.

Mr. LEHMAN. I would agree perhaps before we mark up this bill, I think we have to—this committee has to be assured NOAA, the FAA and DOD budget requests are fully coordinated.

Mr. CARR. And, furthermore, that we get these cost apportionments. No matter whether it is authorized or unauthorized, I don't want to see the aviation trust fund paying 71 percent of the cost for 20 percent of the use. That is not what the trust fund is for. If the Commerce and Justice, State Appropriations Subcommittees have to go into general funds and pick up the rest, then that is what they ought to do, but we have to protect the trust fund.

Admiral ENGEN. Could I ask, please, that we do this in a way this could be considered somehow or other in this budget year, because it is very vital we move——

Mr. LEHMAN. I understand the problem, and we have the time before we mark-up this appropriation. I am sure this can be worked out through talks with Mr. Carr, your staff and myself.

NEXRAD SITES

Mr. **Lehman**. You propose funding 10 NEXRAD sites in fiscal year 1987. Where are those sites, and how were those sites selected?

Mr. **Blake**. NEXRAD sites in 1987 requests, Oklahoma City, Oklahoma; Melbourne, Florida; and Washington, D.C.; Kansas City, Missouri, that is a training system; St. Louis, Missouri; Denver, Colorado; Kansas City, Missouri; Wichita, Kansas; Topeka, Kansas; These sites were selected by the NEXRAD joint system program office after consultation with all of the agencies.

Generally the cited criteria for the total network is to provide 6,000-foot coverage in the central, eastern and West Coast areas and 10,000-foot coverage in the mountainous areas.

Mr. **Lehman**. Based on strictly aviation safety criteria, should we be funding any more than 10 NEXRAD sites for fiscal year 1987? If so, how many, where, and at what cost?

Mr. **Blake**. Fiscal year 1987 funding is for a limited production buy of ten units, and the production line would start the following year. So ten units, I think, is the appropriate number.

LOCATIONS OF NEXRAD

Mr. **Lehman**. Please provide for the record a breakdown of the cost, location and implementation data of each of the 129 NEXRAD sites referred to in your budget justification.

[The information follows:]

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The location and delivery dates for each of the 129 Federal Aviation Administration and National Weather Service NEXRAD units is listed below. This list is still tentative and is subject to change.

A firm NEXRAD cost will not be available until January 1987 when a production contract is awarded; however, we estimate the average per unit costs to be as follows:

NEXRAD Network Unit: $3.2M (total cost to be funded by FAA/USAF/National Weather Service).
FAA Terminal NEXRAD Unit: $5.1M

1	Oklahoma City, OK		1/89
2	Melbourne, FL		3/89
3	Washington, DC		5/89
4	Atlantic City, NJ	(FAA Terminal NEXRAD)	6/89
5	Kansas City, MO	(Training)	7/89
6	Washington, DC	(FAA Terminal NEXRAD)	9/89
7	St. Louis, MO		12/89
8	Denver, CO		1/90
9	Kansas City, MO		3/90
10	Atlanta, GA	(FAA Terminal NEXRAD)	3/90
11	Wichita, KS		4/90
12	Topeka, KS		4/90
13	Tulsa, OK		5/90
14	Chicago, IL	(FAA Terminal NEXRAD)	6/90
15	Miami, FL	(FAA Terminal NEXRAD)	6/90
16	Dodge City, KS		6/90
17	Goodland, KS		7/90
18	Dallas, TX	(FAA Terminal NEXRAD)	7/90
19	Grand Island, NE		8/90
20	Philadelphia, PA		8/90
21	Charleston, SC		9/90
22	Denver, CO	(FAA Terminal NEXRAD)	9/90
23	Louisville, KY		9/90
24	Indianapolis, IN		10/90
25	St Louis, MO	(FAA Terminal NEXRAD)	10/90
26	Chicago, IL		10/90
27	Pittsburgh, PA		11/90
28	Detroit, MI		11/90
29	Tampa, FL	(FAA Terminal NEXRAD)	11/90
30	Cleveland, OH		12/90
31	Buffalo, NY		12/90
32	Memphis, TN		12/90
33	Houston, TX	(FAA Terminal NEXRAD)	1/91
34	Amarillo, TX		1/91
35	Little Rock, AR		1/91
36	Orlando, FL	(FAA Terminal NEXRAD)	1/91
37	Jackson, MS		2/91

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38	Slidell, LA		2/91	
39	New York, NY	(FAA Terminal NEXRAD)	2/91	
40	San Francisco, CA		3/91	
41	Los Angeles, CA		3/91	
42	New York, NY		3/91	
43	Pittsburgh, PA	(FAA Terminal NEXRAD)	4/91	
44	Albany, NY		4/91	
45	Boston, MA		4/91	
46	Minneapolis - ST. Paul	(FAA Terminal NEXRAD)	5/91	
47	Portland, ME		5/91	
48	Omaha, NE		5/91	
49	Des Moines, IA		6/91	
50	Cheyenne, NY		6/91	
51	Sioux Falls, SD		6/91	
52	New Orleans, LA	(FAA Terminal NEXRAD)	6/91	(tentative)
53	Birmingham, AL		7/91	
54	Atlanta, GA		7/91	
55	Miami, FL		8/91	
56	Columbia, SC		8/91	
57	Raleigh, NC		8/91	
58	Portland, OR		9/91	
59	Seattle, WA		9/91	
60	Boise, ID		9/91	
61	Minneapolis, MN		10/91	
62	Milwaukee, WI		10/91	
63	Bismark, ND		10/91	
64	Great Falls, MT		11/91	
65	Dallas - Ft Worth, TX		11/91	
66	San Antonio, TX		11/91	
67	Lubbock, TX		12/91	
68	Albuquerque, NM		12/91	
69	Phoenix, AZ		1/92	
70	Salt Lake City, UT		1/92	
71	Reno, NV		1/92	
72	Cincinnati, OH		2/92	
73	Missoula, MT		2/92	
74	Harrisburg, PA		2/92	
75	Houston - Galveston, TX		3/92	
76	Knoxville, TN		3/92	
77	Binghamton, NY		3/92	
78	Norfolk, VA		4/92	
79	Roanoke, VA		4/92	
80	Quad Cities, IL		5/92	
81	Central Illinois		5/92	
82	Paducah, KY		5/92	
83	Grand Rapids, MI		6/92	
84	Alpena, MI		6/92	
85	Marguette, MI		6/92	
86	Lake Charles, LA		7/92	
87	Shreveport, LA		7/92	
88	Nashville, TN		7/92	
89	Sacramento, CA		8/82	
90	Fresno, CA		8/92	

91	Eureka, CA	8/92
92	San Diego, CA	9/92
93	Burlington, VT	9/92
94	Pueblo, CO	10/92
95	Grand Junction, CO	10/92
96	Springfield, MO	10/92
97	Aberdeen, SD	11/92
98	North Platte, NE	11/92
99	Rapid City, SD	11/92
100	London, WY	12/92
101	Tampa, FL	12/92
102	Mobile, AL	12/92
103	Jacksonville, FL	1/93
104	Wilmington, NC	1/93
105	Tallahassee, FL	1/93
106	Key West, FL	2/93
107	Charleston, WV	2/93
108	Cape Hatteras, NC	3/93
109	Pocatello, ID	3/93
110	Spokane, WA	3/93
111	Pendleton, OR	4/93
112	Medford, OR	4/93
113	Duluth, MN	4/93
114	La Crosse, WI	5/93
115	Fargo, ND	5/93
116	Green Bay, WI	5/93
117	Billings, MT	6/93
118	Glasgow, MT	6/93
119	Corpus Christi, TX	6/93
120	Brownsville, TX	6/93
121	San Angelo, TX	7/93
122	Midland/Odessa, TX	7/93
123	El Paso, TX	7/93
124	Las Vegas, NV	7/93
125	Tucson, AZ	8/93
126	Flagstaff, AZ	8/93
127	Yuma, AZ	8/93
128	Winnemucca, NV	8/93
129	Cedar City, UT	9/93

In addition to these radars listed above, the FAA and NWS will receive information from some military radars located in the United States. The radars listed as "FAA Terminal NEXRAD" are planned to be relocated to Alaska, Hawaii, and the Caribbean around 1993 and replaced by Terminal Doppler Weather Radar procured by the FAA.

NON-CONUS NEXRAD FACILITIES

Mr. **Lehman**. Please also explain for the record the reason and cost for funding the 14 FAA-only non-CONUS NEXRAD facilities.

[The information follows:]

The FAA plans to procure NEXRAD systems to provide weather radar coverage of major air routes in Alaska, Hawaii, and the Caribbean. These radars will provide information on precipitation, turbulence, thunderstorms, storm movement predictions hail, winds, mesocyclones and tornadoes, gust fronts, and icing conditions.

These radars are being funded to serve as interim wind shear detection radars at major airports. The only additional costs needed for these systems to operate in the non-Conus areas is the site preparation and relocation costs. These costs are estimated at $7 million total for all the radars.

NEXRAD FUNDING CONSTRAINTS

Mr. **Lehman**. Of course, last year OMB required the National Weather Service to put NEXRAD development on hold for a period of time while they assessed the feasibility of using off-the-shelf equipment to do the same job. Did that assessment hold up development and procurement of the NEXRAD system in anay way? If so, for how long—and how can such a delay be made up?

Mr. **Blake**. The study did not introduce any appreciable delay.

Mr. **Lehman**. Have funding constraints hindered development and installation of NEXRAD in any way. If so, how; and what are the safety implications of this delay?

Mr. **Blake**. At the beginning of the program, there were some delays due to funding. However, over the last several years funding has been adequate, and continues to be adequate, to meet the needs of the program.

TERMINAL DOPPLER WEATHER RADAR

Mr. **Lehman**. Of course, you are also developing a terminal doppler weather radar to detect wind sheer at airports. As we understand it, you plan to install a derivative of the en route NEXRAD in terminals for the short term while development of a better terminal doppler radar system proceeds over the longer term. There were many accusations made last year that deployment of this terminal doppler wind shear radar was delayed because of: one, funding constraints; and, two, the study of off-the-shelf NEXRAD alternatives. Would you explain what the status of development of the NEXRAD derivative terminal doppler radar is—whether it can satisfactorily detect wind shear at airports and whether development has been delayed in any way—especially by the NEXRAD study decision last year?

Mr. **Blake**. Our status on that is the terminal design studies for the terminal version of NEXRAD will be completed in fiscal year 1986, and tests using a prototype system that we developed with Lincoln Labs has provided resolution of all its technical issues, and the testing of the automatic detection and warning will be finished in 1986, and we are looking forward to operational tests in 1987.

As to the radar capability, it is an excellent radar and can provide very good detection capability on microburst, and we have not been delayed in proceeding with the terminal variant of the NEXRAD rating.

Admiral **Engen**. Mr. Chairman, I would add that the terminal doppler weather radar is not a means to any end. It is going to be very important but we need to continue the training of all pilots, and this is being done through a training contract that we have let with Boeing, United Airlines, McDonnell Douglas and Lockheed. We need also to develop sensors for inside the cockpit, and we need to continue the low-level wind shear system—

What I am trying to get across is it is a multisensor environment, and we want to attack wind shear across the board, not just rely on one thing.

Mr. **Lehman**. I understand what you are saying.

Please expand on your answer for the record. Please also provide to the Committee copies of all correspondence received from or sent to Congress on this issue since January 1, 1985.

[The information follows:]

The NEXRAD derivative terminal Doppler weather radar will be identical to NEXRAD (in fact is a NEXRAD production unit) from a hardware standpoint. The difference will be in the way the system is operated and the software package used. The NEXRAD production units will be used to provide interim terminal area wind shear protection.

The siting/scanning strategies, automated product generation/presentation, and general operational scenario is proceeding in parallel with the NEXRAD procurement and will be finalized prior to delivery of the NEXRAD derivatives beginning in mid 1989.

Based on results of using the FAA Doppler weather radar support facility (basically a NEXRAD system) near Memphis in 1985, the NEXRAD will do an excellent job of detecting wind shear (92 microbursts were detected from April through November 1985).

There has been no delay in the NEXRAD program due to funding constraints or the NEXRAD off-the-shelf study. Program activities continued in parallel with the investigation of off-the-shelf technology.

[Clerk's note.—The requested correspondence was provided to the Committee.]

RE&D FUNDING FOR TERMINAL DOPPLER RADAR

Mr. **Lehman**. Would additional research, engineering and development funding for the terminal doppler radar program in any way serve to accelerate field deployment of the most desirable radar system? If so, how much would be required to significantly accelerate your deployment timetable?

Mr. **Blake**. I believe we have adequate R&D funds to proceed with the implementation.

RADAR FACILITY IMPROVEMENTS

Mr. **Lehman**. Please provide for the record a listing of the cost and location of each radar facility improvement described on page 22.

[The information follows:]

The cost and locations of the radar facility improvements are:

1. *Replace LRR Radome*, five locations at $200,000 each—Total $1M.

Tonopah, NV
Cedar City, UT
Amarillo, TX
Tyler, MN
Mesa Rica, NM

2. *Establish LRR*.

Seligman, AZ—$2,677,200

Holland, MI—$1,800,000
  3. *Relocate LRR.*
Monroe, OR—$1,059,700
  4. *Relocate ATCRBS.*
Pahoe, HI—$811,600
  5. *Provide Added RML Repeater.*
Riverhead, NY—$415,300
  6. *Provide Enroute Radar In-Service Engineering.*
Various Locations—$780,000

Mr. **Lehman**. Mr. Coughlin.

Mr. **Coughlin**. There is a possibility I might have to miss some; is it all right if I do some out of order?

Mr. **Lehman**. Go right ahead.

WINDSHEAR

Mr. **Coughlin**. I would like to turn to page 23, if you would. On page 23, question 117. On page 33 you are requesting $65.5 million for a new terminal doppler weather radar program. We have already discussed this procurement to some extent as part of our NEXRAD questions. As I understand it, you propose buying 15 modified NEXRAD systems to use at terminals until a better terminal doppler radar is developed. How well do these modified NEXRAD systems work in identifying wind shear, how long will they be installed for terminal use before they are replaced, and is this a cost effective use of funds in your view?

Mr. **Blake**. Yes. The radars work extremely well for detection. We will have them in place in at least four to five years, and we believe this is very cost effective because it provides protection against approximately 45 percent of the wind shear threat in this country.

Mr. **Coughlin**. Please provide for the record a detailed explanation of how well these modified NEXRAD systems will work against the terminal doppler weather radar system requirements you have established.

[The information follows:]

The primary requirement for the modified NEXRAD systems is the detection of wind shear events, specifically microbursts and gust fronts. The gust front algorithm will be modified to predict wind shifts at the airport and thus reduce delays. All other weather products such as precipitation rate, turbulence, storm movement predictions, and winds are secondary since these phenomena can be detected, although at a slower update rate, by the network NEXRAD system. Field experiments at Denver in 1982 and 1984 and at Memphis in 1985 have demonstrated that a Doppler weather radar support facility has virtually indentical radar parameters as NEXRAD. This radar was operated near Memphis last summer and detected 92 microburst events.

Comparisons between the radar and data from a network of ground wind sensors is continuing; however, to date we have not found a case where the wind sensors detected a microburst that was not also seen by radar.

In summary, we expect the modified NEXRAD systems will perform the job of wind shear detection in the terminal environment.

GAO CRITICISM OF RADAR

Mr. **Coughlin**. How do you answer GAO's criticisms that this equipment is not ready for procurement, and that we ought to consider waiting and funding additional R&D work before we fund procurement?

Mr. **Blake**. I think the GAO criticism was based on some reports that are probably a year old at this point. Since that time, at our test bed in Memphis, we have addressed all of the technical questions that were in the report that they were referencing, and we have all of the data we need now to set the technical perimeters for the radar. As I indicated a moment ago, we will be testing the automatic detection and warning algorithms this summer in Huntsville, Alabama, in conjunction with Program MIST, and that completes the testing.

Mr. **Coughlin**. Let me quote from our testimony from GAO. This is from Mr. Cotton's testimony before GAO in response to a question from me. He said, "We have also taken a look at the problems that they are having with the update rate, because it is no good having an update rate of five to ten minutes when a wind shear or a microburst, in particular, occurs, and is gone within one to two minutes. And you need an update rate—I forgot what the FAA says, but somewhere in the neighborhood of 35 seconds."

I asked, "So what are you suggesting?" He replied, "So what I am suggesting is that I would question the FAA at these appropriation hearings whether or not they have developed technical solutions to these problems before I would give them money to procure any system to be placed in there."

Mr. **Blake**. The NEXRAD radar, when operated in the long-range mode, does take some five to six minutes for a total scan. In the terminal area we are only interested in weather at the lower elevations and much lower ranges, and we will set that update rate between one and two minutes, and that will be adequate for microburst detection.

Mr. **Coughlin**. Do you have the technical solution to that problem?

Mr. **Blake**. The radar is capable of operating in either mode, and that was designed in from the start.

Mr. **Coughlin**. What ground clutter problems remain with the modified NEXRAD radar?

Mr. **Blake**. None. We have demonstrated we can achieve the desired level of clutter elimination.

NEXRAD LOCATIONS

Mr. **Coughlin**. You plan to install modified NEXRADs at 15 locations. Where are these locations, when will the equipment be installed and operational, and were any other locations where wind shear is prevalent left out?

[The information follows:]

The locations and delivery dates of these sites are listed below:

Site	*Delivery date*[1]
1. FAA Technical Center	6/89
2. Washington National/Andrews AFB	9/89
3. Atlanta	3/90
4. Chicago	6/90
5. Miami/Ft. Lauderdale	6/90
6. Dallas-Ft. Worth	7/90
7. Denver	9/90
8. St. Louis	10/90
9. Tampa	11/90

Site	*Delivery date*[1]
10. Houston	1/91
11. Orlando	1/91
12. New York Kennedy/La Guardia	2/91
13. Pittsburgh	4/91
14. Minneapolis-St. Paul	5/91
15. New Orleans	6/91

[1] Installation and commissioning will require approximately 6 months for initial units and approximately 4 months for later units.

Based on our observations and test results to date, indications are that wind shear can occur at any airport with the right meteorological conditions, especially those subject to frequent thunderstorms. The initial sites were chosen based on protecting the maximum number of passengers with a limited set of equipment.

NEXRAD TERMINAL SITES

Mr. **Coughlin**. Please provide for the record a detailed explanation of how you determined the terminal sites for modified NEXRAD installation and the full cost for each location.

[The information follows:]

The terminal NEXRAD Priority list was established by ranking major airports by a weather exposure factor. This weather exposure factor is a product of passenger count and annual thunderstorm days for each airport. Two of the systems were assigned to the FAA Technical Center and Andrews Air Force Base. The remaining 13 systems were assigned to the airports highest on the priority list. In order to maximize the coverage provided, three cases were identified where one radar could cover two airports. These cases are:

(1) Andrews AFB/Washington National
(2) Miami/Ft. Lauderdale
(3) New York Kennedy/La Guardia

The cost of each system is estimated at $5.1 million. This includes dual channel equipment, remote maintenance monitoring, spares, site acquisition and preparation, installation, and SEI support.

Mr. **Coughlin**. Why was the terminal doppler radar procurement singled out as one that could be taken off a "full funding" basis?

Mr. **Blake**. As indicated earlier, there were several programs, three programs where a number of the elements of those programs did not require funding in the first year, and some of those elements, which are in-house costs, site preparation and installation, have been deferred to the following year's request.

MODIFIED/ENHANCED NEXRAD

Mr. **Coughlin**. Explain to us the difference between the modified NEXRAD and the enhanced NEXRAD. We have a lot of NEXRADs running around.

Mr. **Blake**. We have the basic and root NEXRAD, and we have the modified one, which is the terminal version.

Mr. **Coughlin**. What is enhanced?

Mr. **Blake**. I don't know what an enhanced NEXRAD is, unless it is another reference to the terminal.

Mr. **Coughlin**. Same as modified?

Mr. **Blake**. I would assume it was, since we only have the two versions.

Mr. **Coughlin**. Is the modified a terminal radar?

Mr. **Blake**. Yes.

Admiral **Engen**. In order to use it in the terminal mode, we are modifying it.

MICROWAVE LANDING SYSTEMS

Mr. **Coughlin**. I want to make sure we have our terminology clear.

I would like to turn, then, if you would, to page 29 of the questions, beginning with question 146. This is concerning MLSs. I know every year we discuss the merits of ILS versus MLS.

On page 49, you are requesting $43 million to continue the microwave landing system program. I believe you awarded a contract with Hazeltine Corporation in January, 1984 for 172 MLSs. I believe that contract called for the first MLS installation in January, 1986. The GAO said this program has had major slippage. Why have there been delays in this program, and how far off schedule is it?

Mr. **Pozesky**. There have been delays. The program is now projected for delivery in July, 1987. This represents an 18-month slippage from the original contract date, or a nine-month slippage from, I believe, this time last year.

The contractor has experienced problems in software development and problems in recruitment of software people to solve those problems. We do not believe it is a technological problem, but the contractor is experiencing difficulties in meeting this commitment.

Admiral **Engen**. I have met with the CEO and he has assured me, after this final slippage Mr. Pozesky has talked of, that he will indeed meet the schedule from now on. I am counting on that, I am holding him to his word. The MLS is a very good program that is needed to help upgrade our air space system. It is a key means of terminal navigation that is going to enhance our ability to handle more traffic volume, as well as to plan around noise issues and departures, as well as approaches. It is a very good program.

Mr. **Coughlin**. Are you confident no further slippage will occur?

Admiral **Engen**. I have got a marker that says there will be no more slip. I am looking the fine gentleman in the eye, and he has assured me there will not be. I will come to you and I will advise you if there is going to be any further slip. I can't speak for him. I feel the technology is there, I feel Hazeltine has the competency and the dedication to get there, and I am sure doing everything I can to make them get there.

Mr. **Coughlin**. You are going ahead with the second procurement?

Admiral **Engen**. We will. It will follow, yes, sir.

PENALTY PROVISIONS

Mr. **Coughlin**. Is Hazeltine paying any penalty costs to you for non-delivery? If not, why not?

Mr. **Pozesky**. There is a penalty provision in the contract which kicks in after they miss the delivery date. At the moment, they have not formally missed a delivery date, so they are not formally paying a penalty. But that will kick in if they miss their current delivery date by six months or more.

Mr. **Coughlin**. Would you put something in the record as to what the penalty costs are?

Mr. **Pozesky**. Yes, sir.

[The information follows:]

A liquidated damages clause was added to the contract by Modification #5. It provides for recovery of a maximum of approximately $400,000 from Hazeltine for late deliveries.

MLS SOFTWARE DEVELOPMENT

Mr. **Coughlin**. Will Hazeltine's delay cost the FAA additional funds to pay for the original 172 MLSs? If so, how much?

Mr. **Pozesky**. No, sir.

Mr. **Coughlin**. We understand that one reason for the 18-month delay in installing MLSs is that software has yet to be developed for the Hazeltine MLS. What is the status of the software development, and could this problem further delay MLS installation?

Mr. **Pozesky**. This is the single cause of Hazeltine's delay. We have just completed our second or third in-depth management overview with them. They had trouble recruiting people. They have indicated they are currently on track. We are checking them. We are hopeful they can complete on schedule, and everything points in that direction right now.

Mr. **Coughlin**. Let me again go to the testimony we had from the General Accounting Office on this program. In response to a question again to Mr. Cotton of the General Accounting Office concerning the microwave landing systems, Mr. Cotton responded, and I quote, "Microwave landing systems. They originally expected that the Hazeltine 2500 system would meet FAA specifications, when in fact, it has not. And Hazeltine has informed FAA recently that they intend to contract out for the software development. Right now that means that an MLS that will meet FAA's system requirement statement and systems specifications is not ready for production. So I would feel very uncomfortable giving them money to produce a system for which the software is not even ready yet."

Mr. **Pozesky**. There are several points to be made. The software they are proposing to contract out is for a small part of the overall design. I think it is their internal communications software.

The second point to be made is that on a broader scale, we really don't believe there are technological problems with the MLS. MLSs have been produced worldwide, there are several countries that have MLSs. There are several companies that have developed MLS. Hazeltine has developed and delivered MLSs for state and local use. They are having a particular problem with this design. So I would like to divorce the question of whether MLS is technologically mature. We think it is.

Hazeltine is trying to solve that particular sofeware problem, and they are contracting out in an effort to do that. We are experiencing software delays in many areas. We believe we will overcome this, and will work our way through it.

Mr. **Coughlin**. Mr. Cotton continued, "Because, quite frankly, I reflect back on the Model 1 program for the flight service station automation, and how we gave them money for the hardware, for the computers that have set in bonded storage for a number of years and are just now being used as the Model 1 software has become available."

We are not going to have MLS sitting in bonded storage, are we?

Mr. **Pozesky**. No, sir. The software is part of the design, and we will not accept the system without the inherent software. Talking about FSS specifically, in that case we did have two separate contracts with the same contractor: one for hardware, one for software. We accepted the hardware delivery, but the software was delayed. That is how we got into the bonded storage situation. That will not happen in MLS.

Mr. COUGHLIN. Who is paying the added cost for contracting out the software?

Mr. POZESKY. Hazeltine.

Mr. COUGHLIN. How long will each MLS have to be tested after it is installed before you can designate it operational for category I, category II, or category III type instrument approaches?

Mr. POZESKY. We believe it should be available for category I as soon as installed. It will probably be an additional year for category II and III, depending upon the site perimeters and degree of operational facilities that exist at that site.

Mr. COUGHLIN. What impact does the present MLS installation schedule have on FAA's making the MLS operational on a timely basis, once installation has taken place?

[The information follows:]

Once installation has taken place, operational use of the system is expected to begin immediately upon completion of a certification flight inspection by the FAA.

MLS TESTING

Mr. COUGHLIN. What testing of the MLS equipment is required, and how long will it take before the standard instrument approach procedures can be written?

[The information follows:]

Sufficient testing has already been completed to permit preparation of standard instrument approach procedures and several are already in use.

MLS IMPLEMENTATION SCHEDULE

Mr. COUGHLIN. As we understand it, your microwave landing system implementation plan recommends a three-phase implementation schedule. Phase I would install a minimum number of MLS ground systems, ten to 30 systems, over a two-year period to demonstrate MLS capabilities and benefits and to assess possible changes in implementation and procurement strategies. Phases II and III would then be the major procurement efforts. Why was Phase I not followed in awarding the initial MLS contract to the Hazeltime Corporation in January 1984 when you bought a minimum of 172 MLS systems? Were you highly confident at that time that this equipment would be delivered on time?

[The information follows:]

The phases of the transition plan were followed in that the first three networks, i.e. Boston, Denver, and Alaska, areas, are intended to constitute Phase I and will be used to influence implementation strategies for Phase II and III. The equipment procurement for the three phases is combined to make use of economies of the multiyear contracting techniques which reduce contract administration costs and hardware unit costs. Changes to the equipment specification resulting from Phase I are expected to be minor and can be accommodated in-process in the interest of gaining the benefits to be realized by keeping a short transition period.

MLS MODIFICATION

Mr. COUGHLIN. Why did you agree to "modification 5" to the initial MLS contract, dated April 12, 1985, which we understand increased installation over the first 20 months to 102 units, without going through phase I testing and modification as needed?

[The information follows:]

Modification #5, revised the contract to implement a new delivery schedule, requested by the contractor, that slipped the delivery date of the first system but provided for accelerated deliveries which maintained the overall MLS program implementation schedule. A liquidated damages clauses was also incorporated to compensate the Government if the new schedule is not met. Since Transition Plan Phase I deals with operational use and does not relate to equipment performance, completion of Phase I is not required before proceeding to Phase II.

PHASE I SLIMINATION

Mr. COUGHLIN. By eliminating phase I, has FAA abandoned developing and testing any prototype MLS built to FAA specifications as required in the OMB Circular A-109?

[The information follows:]

Phase I has not been eliminated. The first three networks under the Hazeltine contract constitute Phase I of the program. The prototype development and testing required under A-109 was accomplished during the research and development phase of the program, which led to the decision to proceed into production.

MLS PROCUREMENT SLIPPAGE

Mr. COUGHLIN. As we understand it, your original MLS plan called for a second procurement of about 500 systems for which the RFP would be issued in the fall of 1986. Do you still plan to issue a request for proposals this fall for 500 MLSs? If not, why is there slippage in this contract, and when do you now plan to award it?

Mr. POZESKY. We intend to issue the RFP, as planned. The military is talking with us on joining our procurement. That may have the effect of raising the quantity from 500 to more like 700.

Mr. COUGHLIN. Since there is a significant slippage in this program, how do you plan to satisfy the precision approach requirements for those airports that have been waiting for MLSs?

Mr. POZESKY. We don't believe we should purchase ILS. Among the problems we get into is the delivery time. Given Hazeltine delivery is on schedule as currently planned, that is the fastest way for delivery of a landing system. We think we ought to stay clearly on the track we are with MLS. We believe it is the right answer.

LEASING ILS

Mr. COUGHLIN. In the interim, many people want the use of ILS, and I know there is a possibility of leasing some ILSs to the FAA. Have you reviewed this, and what do you think of that?

Mr. POZESKY. The administration has a policy on site-specific exceptions to the ILS cases, and we make those exceptions where safety or other demands dictate. As you well know, the local communities can lease systems built to FAA standards and specifications if they wish to with their own funding. Those are the two approaches we are using now to deal with the ILS program. We believe the MLS will solve the problem when we get the equipment.

Mr. COUGHLIN. Please expand on your answer for the record.

[The information follows:]

Leasing or buying will not provide ILS any sooner than when we can expect to get MLS. Under the existing contract, MLS deliveries are scheduled to begin in July 1987. If we were to initiate an ILS acquisition by lease or purchase, our experience indicates that it would take a minimum of six months to consumate a contract after funds are available in October 1986 and approximately one year from the date of contract award to the beginning of deliveries. This schedule would provide ILS by March 1989 or approximately 9 months after initial MLS deliveries begin.

Mr. COUGHLIN. What assurances can you give us that MLS installation will not slip any further?

[The information follows:]

An in depth FAA management review of the Hazeltine schedule was underway when Hazeltine advised of the most recent 9 month slip. That management review has since been completed and it indicates that the new Hazeltine schedule is reasonable and achievable. Thus, we have high confidence in the new schedule, but cannot guarantee that a further slip will not occur.

PROCUREMENT-PERFORMANCE SPECIFICATIONS

Mr. COUGHLIN. What method of procurement—performance specifications or reprocurement data packages—do you plan to use for the second procurement, and why have you selected that method?

[The information follows:]

As a result of the recent Hazeltine schedule slip and further analysis, we have revised our procurement plans and decided that there is no economic advantage to the use a reprocurement data package for the next procurement. Therefore, in the interest of maintaining the program schedule, and fostering competition, we have elected to use a performance specification for the next contract.

Mr. COUGHLIN. If you use performance specifications for the next procurement, will it include specifications for category II and category III equipment that were not included in the specifications for the original MLS contract?

[The information follows:]

The original performance specifications are being updated to incorporate recently defined requirements for Categories II and III designs.

Mr. COUGHLIN. Since new performance specifications would be somewhat different than the Hazeltine design and since category II and category III MLSs have never been built, would you plan on building and testing any prototypes before contracting for the 500 systems? If not, why not?

[The information follows:]

We do not intend to require building and testing of prototypes for Categories II and III designs. These requirements involve application of redundant designs for hardware and the application of existing techniques to software development for integrity assurance. Based on our experience using the same procurement approach for ILS, we are planning to avoid the schedule impact and costs associated with building and testing prototype for the MLS.

HAZELTINE MLS EQUIPMENT COMPATIBILITY

Mr. COUGHLIN. If you use performance specifications, will the Hazeltine MLS equipment be compatible with the new procurement? If not, how much will it cost to retrofit the Hazeltine equipment to make it compatible?

[The information follows:]

The signal in space and, thus, aircraft equipment will be unaffected by any change in ground station design with regard to the ground equipment. While it is difficult to determine the degree of compatibility in advance of completion of the next design, it is envisioned that the requirements for Category III will dictate some hardware and software differences, even if Hazeltine should be selected for the next contract. At the time the design is complete, we would analyze the design differences to determine if the cost to retrofit would be offset by the savings in support costs resulting from commonality. If not, then we would only use the Hazeltine equipment to support Category I and possibly Category II operations.

SMALL COMMUNITY VERSION MLS

Mr. COUGHLIN. Did you include a small community version MLS in the first MLS contract? If not, why not?

[The information follows:]

The MLS being procured satisfies the requirements of the small community version of the MLS and also fits the FAA requirements for remote monitoring, etc.

Mr. COUGHLIN. Do you plan to purchase small community MLSs in future contracts? If so, when?

[The information follows:]

We plan to continue to purchase the present functional design in future contracts.

Mr. COUGHLIN. At what sites will one azimuth antenna be used to provide lateral coverage for more than one runway?

[The information follows:]

While the locations for the MLS have generally been identified, the exact location for the ground equipment installation must await the completion of the contractor site engineering report, which is currently underway for the first 178 locations. Until the contractor site engineering reports are finalized and the standard instrument approach procedures are developed and approved, we cannot identify the specific locations.

Mr. COUGHLIN. As we understand it, the avionics necessary to perform a curved approach are not yet developed. When do you anticipate the curved approach becoming operational on a systemwide basis?

[The information follows:]

Final designs for the hardware to support curved approaches will follow completion of the final RNAV Minimum Operational Performance Standards (MOPS) being developed by the Radio Technical Commission for Aeronautics and now scheduled for completion in late calendar year 1986. Based on this schedule, and our knowledge of design activities underway, it is estimated that curved approach capability could be operational by 1988 or 1989. In the meanwhile, segmented approaches or approaches along some other azimuth than runway centerline can be flown with avionics currently available.

40 DEGREE SWEEP

Mr. COUGHLIN. According to the GAO, the cost of a sweep of plus 40 degree of runway centerline appears to be about $40,000 more than a sweep of plus ten degree of runway centerline. Why do 175 of the 178 MLSs in the Hazeltine contract have a plus 40 degree sweep?

[The information follows:]

To implement only ±10 degree proportional coverage system would offer little advantage over ILS and would deny the users one of the major advantages of MLS, that is a broad navigational coverage in the terminal area.

Mr. COUGHLIN. Do you plan to order MLSs with plus ten degree sweep in future contracts especially for small community sites?

[The information follows:]

We do not envision any significant applications for ±10 degree systems. However, when analysis of a specific site dictates that only ±10 degree coverage is justified, we will weigh the cost of the system against the cost of operating and maintaining two different systems and select the most economical approach.

AZIMUTH BEAMWIDTHS

Mr. COUGHLIN. According to the GAO, there are 78 runways in the Hazeltine contract with azimuth-to-threshold distance of 8,800 feet or less. Why did FAA not follow its guidelines and include three degree azimuth beamwidths in the Hazeltine contract, which could have saved up to $370,000?

[The information follows:]

Increasing the number of antenna configurations increases the design, tooling, and manufacturing overhead costs to the manufacturer. Loss in commonality also increases maintenance and logistics costs over the life cycle of the system. The equipment performance specified represents the most economical approach considering life cycle costs.

Mr. COUGHLIN. Does FAA plan to order any three degree azimuth beamwidths in future procurements? If so, under what circumstances?

[The information follows:]

We do not envision the need for ±3 degree beamwidth systems except possibly for certain heliport applications where the size of the MLS antenna is the limiting factor in siting the equipment. Siting criteria for MLS heliports are being developed so it is not possible to make a definite statement at this time.

Mr. COUGHLIN. According to FAA criteria, six runways in the Hazeltine contract meet the distance requirements for a one degree azimuth beamwidth. The contract specifies 64 one degree azimuth beamwidths. Why did FAA not follow its guidelines for beamwidth selection for one degree beamwidth and save up to $900,000 by using two degree beamwidths instead of one degree beamwidths?

[The information follows:]

In making our assignments, it was generally assumed that a 2-degree beamwidth would be sufficient if the total distance from the azimuth station to the runway threshold is less than 9,000 feet. For distances of greater than 9,000 feet, a determination must be made based on the presence of large reflecting objects in the surrounding terrain as well as the total distance to threshold. An effort is made to avoid siting the azimuth station in the runway safety area, which extends 1,000 feet out from the stop end of the runway, and when siting in an approach light lane, to avoid siting within 1,500 feet. This additional distance which must be added to the runway length in making the antenna selection is not known until the siting study is completed, but averages approximately 1,500 feet. Since there are 67 runways on the contract which are 9,000 feet or greater (meaning a total distance between azimuth station and threshold of 10,500 feet or more), 64 one degree beamwidth systems is not an unreasonable number.

Mr. COUGHLIN. Will you use the criteria as specified in the technical data package in determining beamwidth selections for future procurements?

[The information follows:]

The technical data package only provided guidelines for selecting the beamwidth appropriate for the runway environment based on general siting criteria. As with the existing procurement, we will await completion of the Contractors Site Engineering Report to determine the specific antenna configuration required.

Mr. COUGHLIN. Since one degree beamwidths cost at least $16,000 more than two degree beamwidths, can adjustments be made to the

Hazeltine contract to change the number of one degree and two degree beamwidths before the MLSs are actually installed? Will adjustments to the contract increase the contract price?

[The information follows:]

If adjustments must be made that exceed the requirements of the existing contract, then an appropriate contract price adjustment would have to be made. We do not feel this will be necessary, since the contract has sufficient flexibility to allow for changing antenna configurations.

Mr. COUGHLIN. Do you plan to build some flexibility into future MLS contracts to be able to adjust for some changes in beamwidth requirements?

[The information follows:]

Yes, like the existing contract, any new contract will have sufficient flexibility to accommodate a range of antenna configuration requirements.

MSL LOCATION SELECTION

Mr. COUGHLIN. For the first MLS procurement, why do you plan to locate MLSs on runways without existing lights at Richmond, Virginia, and Santa Barbara, California, when we understand there are lights on other runways at the same airports?

[The information follows:]

In selecting the preferred runway for MLS deployment at a given airport, a runway which is not presently instrumented was chosen in some cases to maximize airport capacity or increase flexibility in direction of approach. These noninstrumented runways will not normally be fitted with an approach lighting system. In these cases, after the decision is made to implement the runway with MLS, programming action is initiated to install an approach lighting system.

Mr. COUGHLIN. GAO informs us that although the budget justification for fiscal year 1987 has 20 MLS locations that do not have instrument landing system capability, funds are requested for only 12 sets of lights. Why is this, do the other sites already have lights?

[The information follows:]

In some cases, terrain or real estate considerations make it impossible or not cost effective to install an approach lighting system. It is not unusual for a runway threshold to be located within 1,000 feet of the end of the airport property. It is often impossible or extremely costly to purchase the easements required to install a lighting system.

RUNWAY LIGHTS FOR MLS SITES

Mr. COUGHLIN. In September, 1985, 25 MLS sites previously funded were deferred. The funds included runway lights for ten sites. Since 19 of the sites you substituted for the 25 deferred sites need lights, will you have to request additional funds for lights for nine sites? If so, how much will these lights cost, and when will such a request be made?

[The information follows:]

The lighting systems for these runways will be satisfied out of available assets which resulted from curtailment of the ILS Program.

Mr. COUGHLIN. It is our impression that air carriers will not invest in MLS avionics until it has been shown that MLS works in commercial wide body aircraft. How do you plan to satisfy the carriers' concern of testing wide-body aircraft with MLS in ordinary flight conditions at a commercial airport?

Mr. POZESKY. We have a joint program with the military using a C-141 aircraft to conduct those critical tests necessary for wide-body operation. We believe that that will satisfy their concerns.

Mr. COUGHLIN. When do you anticipate DME/P avionics will become available, and on what do you base this projection?

[The information follows:]

Since a conventional DME has sufficient accuracy to support Category I operations, we expect that development of DME/P avionics will occur when implementation of operations to Categories II and III minima is begun. We estimate this to occur by 1989.

MLS CATEGORY III

Mr. COUGHLIN. When do you plan to establish criteria and procedures to certify aircraft for MLS category III operations?

[The information follows:]

We now expect criteria and procedures to be available by 1989 for Category III certification.

MLS COST/BENEFIT ANALYSIS

Mr. COUGHLIN. As we understand it, FAA's cost/benefit analysis of the installation of 1,250 MLSs included incremental benefit estimates of $637 million (in 1976 dollars) from reduced flight disruptions, delay savings from fewer outages and air and ground restrictions, and path-length reductions. About 46 percent of these $637 million benefits is attributed to the value of passenger time savings.

Also about 57 percent of the $637 million is attributed to delay savings and path-length reductions (i.e., passenger time and other benefits combined). Since delay savings and path-length reductions tend to be of relatively short time durations, should the passenger time savings be valued at an hourly usage rate (i.e., $23.18), at a lower value of time, or not at all in FAA establishment criteria for the runways where MLSs should be located?

[The information follows:]

The benefits estimates stated in this question are from an early study published in 1980. The FAA developed cost-benefit based establishment criteria to assist in selecting MLS installations. Benefits are calculated for individual 1,250 MLS installation candidates. Path-length reductions are not quantified as a benefit in the establishment criteria cost-benefit methodology.

It is appropriate to value passenger time savings at the highest hourly rate when evaluating FAA investments and regulatory actions. The FAA is concerned with overall airport and airway system performance. There are two system perspectives associated with individual delays. First, small delays in one part of the system often create delays in other parts of the system. Moreover, the secondary delays tend to get longer, as the number of small individual delays increase throughout the day. As a result, the cumulative impact that small delays have on passengers transiting the system can be very important. The cascade impact is frequently not quantified in analyses of individual investments and using a maximum value of passenger time saving compensates for the understatement. There is also a second perspective. The FAA is constantly making incremental improvements to the efficiency of the airway system through separate investments. Each investment's reduction in delays may seem small when considered individually, but there are generally numerous such projects—landing aids, runways, improved airspace—being undertaken that benefit the individual traveller. Therefore, the cumulative effect of these investments and their small reductions in delays have large economic value. If the FAA valued the passenger time saving benefits of each individual investment as zero or relatively little, some of the investments (MLS or others) might appear uneconomic. But together, these investments would have a substantial positive cumulative impact on reducing delays which is en toto of great consequence to travelers.

The range of opinion on the maximum value of time in travel varies between some fraction of the earnings rate and three times the earnings rate. The standard value that the FAA uses in all of its analyses is the average hourly earnings rate of the typical air traveler.

VALUE OF TIME

Mr. COUGHLIN. We also understand that the cost/benefit analysis used in your establishment criteria assigns weights of 67 percent for delays, 30 percent for cancellations, and three percent for diversions at hub airports. The average delay is assumed to be 15 minutes airborne and 30 minutes on the ground at hub airports with passengers at connecting airports being delayed 30 minutes on average when a delay occurs. If the value of time for passengers experiencing these delays was not considered, how many runways would still qualify based upon a benefit/cost ratio above one?

[The information follows:]

Speed is the principal advantage of air transportation over alternative modes. But speed is important, only if time has value. Since time does have value to people, the value of time must a be key ingredient in arriving at economically rational investment and regulatory decisions in the aviation system. The arguments for valuing passenger time were previously stated. Nonetheless, we estimate that a 100 percent reduction in the value of passengers' time reduces the number of benefit/cost based qualifiers by about 25 to 30 percent.

It should also be noted that the basis of the agency's plan to install 1,250 MLS's is not limited simply to benefit/cost considerations. Other factors, which for various reasons cannot be considered or measured in our generalized benefit/costs criteria, are also important determinants in selecting qualifying sites—e.g., site-specific operational considerations, impact of reliever airports, etc.

Mr. COUGHLIN. If an intermediate value of time of, let us say, $12 per hour, was used, how many runways would still qualify?

[The information follows:]

We estimate a 10 to 15% reduction in the number of benefit/cost based qualifiers as a result of a 50% reduction in the value of passengers' time. (Note: in 1987 dollars, 100% = $24.00 per hour, 50% = $12 per hour.)

AVERAGE AIRCRAFT FLEET DISTRIBUTIONS

Mr. COUGHLIN. As we understand it, your benefit measures are based on average aircraft fleet distributions for the nation. National averages are also used to determine flight disruptions and delays due to weather. Are small aircraft more likely to be delayed or diverted by poor weather conditions than larger aircraft? If they are, are benefit estimates inflated on some runways because delays and diversions avoided are overestimated for larger aircraft that experience higher costs per delay and diversion?

[The information follows:]

Small aircraft are more likely than large aircraft to be delayed or diverted by poor weather because, on average, they tend to have less sophisiticated avionics and because they tend to use airports with lower levels of navaid service. It is unlikely that delay and diversion reduction benefits are overestimated, however, because we don't rely on national averages as suggested by the question. For example, we use aircraft fleet distributions for each user class (air carrier, air taxi/commuter, general aviation, and military) as opposed to average values for all aircraft lumped together. For each benefits analysis, we further tailor these average weighted values to the type of airport and equipment or service of interest. Furthermore, for determining weather-caused flight disruptions, we use site-specific weather data or, when unavailable, regional averages, as opposed to national average weather characteristics.

National average values are used for aircraft fleet distributions within each user class (air carrier, air taxi/communter, general aviation, and military) as opposed to an average vlaue for all aircraft. For each benefits analysis, we further tailor these average weighted values to the type of airport and equipment or service of interest. As a result of this methodology, it is unlikely that benefits from reducing delays and diversions are overestimated.

DECOMMISSIONING CRITERIA

Mr. COUGHLIN. The FAA installed criteria for the nation's airports. GAO recommended FAA detail cost-benefit analysis for instrument landings not installed to meet special conditions, which appear to be criteria, and to collect data to determine if the ILS installation meets these special conditions, as accomplished in this objective, and they establish decommissioning criteria no longer exist.

What is your response to that recommendation?

Mr. POZESKY. We are developing decommissioning criteria. And we are, as you well know, trying to implement the MLS network concept. We believe that is the proper approach.

Admiral ENGEN. Let me step in. Any time you change from one kind of equipment to another, there is a period of transition which is a difficult one. What we are dealing with across the board is to try on an individual basis to phase this in in a way we can continue to have the approaches that we need and also develop the added capability of having MLS. It is very difficult. We are working with the individual air carriers initially along their route to be sure that they can install the avionics equipment in their airport and use it along a given route.

You can afford to put it in in one place and another and eventually cover the whole United States. We are going to do it regionally.

Mr. COUGHLIN. I know it is always hard to get a priority response to almost any question, but where does it fit in your order of priorities?

Admiral ENGEN. I would categorize the MLS as being a prime mover in the system. It is the system upon which I am placing a great deal of credibility and importance. I would categorize it right up there with the host computer and automated software. It is of a different category. It is for our terminal navigation. It is a prime part.

Mr. COUGHLIN. It can be stretched out, however. I would hope we could continue to move toward the 1200 MLS we would postulate to have by the year 1985.

ADEQUACY OF FY 1987 BUDGET

Mr. LEHMAN. I take it, Admiral, you have to leave us around noon. Let me just go through a couple questions to you now, and then we can excuse you and maybe come back at around 2:00 o'clock.

Page four, question 12, I asked this when you were not present. I would like to have you respond to number 12.

In February you stated the FAA has come through the fiscal year 1987 drafting budget process in relatively good shape. Are you satisfied that your fiscal 1987 budget request contains sufficient operational, capital equipment, R&D and airport funding to safely and efficiently handle air traffic levels? If not, what additional funding do you believe is going to be required?

Admiral ENGEN. I am delayed in the plan brought about by the events that are very real. We have a deficit in this country, and the United States Government is taking extraordinary means to deal with that deficit. In that respect, we are supporting to the maximum extent possible. It is extremely difficult to have funds less than planned. And when you have less funds than planned, you have to start accommodating and making changes. These are indeed trying financial times. As an operating agency, one who is responsible for the safe flow of air commerce, I find it extremely difficult, but I want to assure you we are placing safety as the number one criteria, and we are going to maintain that.

Your last two questions were am I satisfied, and I think as the agency administrator, I think I have to candidly say no, sir, I am not. But given the context of Gramm-Rudman-Hollings, and the fact this great administration is supporting the goals of Gramm-Rudman-Hollings, we at the FAA are going to have to do our best to insure we can move forward and gain that national air space system plan.

I am dealing in real time, and sometimes the questions are extremely hard to answer inside on the order of priorities. But I believe we can get there, and the bottom line is, yes, I would like to see more funding.

Mr. LEHMAN. What additional funds do you think that you are going to need, and when do you expect to be able to make such a request?

You are in a bind. I don't think it is, as you say, life-threatening, but certainly the credibility is being stretched. How much money are you going to need before the end of 1987 to really do the job as you see it on the basis of keeping the program on schedule or keeping the program viable?

Admiral ENGEN. I will answer that in two parts, Mr. Chairman. As you know, I have said before that we are an operating agency, and as such we function 24 hours a day, 365 days a year. The funds that I require, and I see most critical, are people funds. We are a people-intensive organization.

We hold air commerce together. We inspect the airplanes of the air carriers. We inspect general aviation airplanes. We take certificate action against those who are not complying and take enforcement action. We monitor the air traffic system, and indeed more than monitor, we control the air traffic system on a real time basis. We bring on new equipments needed to maintain the national air space.

We have people who must maintain that equipment as well, and this is a key and critical area where I see the need for funds. I have asked for the money in fiscal year 1987 that I feel, given the constraints that we have, and given Gramm-Rudman-Hollings in addition, that will get us through this time frame. Secretary Dole and I both are looking towards increased funding in fiscal year 1988.

Mr. LEHMAN. I guess I am trying to pin you down to a number that you feel would really be needed.

Admiral ENGEN. For fiscal year 1986 or 1987?

Mr. LEHMAN. 1987. I know you may need around $80 million or more in 1986. I don't know what you are going to need in 1987.

Admiral ENGEN. My budget that we are discussing including NEXRAD and the other things we are talking about, I believe will carry us through. These are constrained times, and I am not prepared to give you a top-of-the-head figure here. I would be very pleased to critically analyze this and provide a more qualitative statement for the record.

Mr. LEHMAN. You said you are not satisfied, but yet at the same time it will carry you through.

Admiral ENGEN. Yes, that is right.

Mr. LEHMAN. I am trying to find out the dollar difference between "It will carry me through" and "I am not satisfied."

Admiral ENGEN. Mr. Chairman, I would like to cogitate on that and provide you something that is meaningful, rather than a hip shot. I don't think it is going to do me any good or anybody any good for me to take a hip shot.

Mr. LEHMAN. I understand your position. I would hope that we can come up with something that won't catch us blindsided with a supplemental two or three months down the road when you are in a desperate situation.

Admiral ENGEN. I appreciate that wisdom, and I understand exactly what you are saying. I would just add that I am indeed very concerned about the ability of this agency to continue to operate in a very constrained fashion.

Mr. LEHMAN. Off the record.

[Discussion off the record.]

[The information requested follows:]

The President's FY 1987 budget request for FAA, assuming the pricing projections and policies that were valid at the time the budget was developed, would have provided minimally adequate funding for the safe, efficient management of the NAS, including implementation of the NAS plan. Requesting such a level is entirely appropriate, given the financial situation the Federal government now faces. However, such a level affords little flexibility should pricing projections prove too low, should current year costs be deferred into the budget year, or should circumstances arise that require policy revisions which increase costs.

A number of policies with FY 1987 budget implications have been reconsidered since the budget was developed. These include the number of aviation inspectors estimated to be employed in FY 1987, and the manner in which software maintenance and automation training are conducted in the air route traffic control centers. Also, the FY 1987 request assumes that FAA will realize substantial savings because of management initiatives such as A-76 contracting and others. To the extent that we fail to fully realize these savings, additional pressure will come to bear on our FY 1987 resources.

Costs originally expected to be met in FY 1986, but which will be deferred to FY 1987, include substantial PCS move costs in connection with the flight service station consolidation effort and costs of the "cross-option" program through which we expect to improve the staffing balance between air traffic control towers and centers, thereby relieving staffing shortages that exist in certain centers.

While it is possible to attach specific dollar amounts to each of the above items, it does not necessarily follow that we need additional funding, beyond that already requested, for each of the items. Any operation as large, dynamic and diversified as FAA's can rely on being able to absorb some additional costs, as we have done in past years. At this time it is difficult to say how much we can absorb and, therefore, it is impossible to say whether or how much additional funding is needed in FY 1987 beyond that already requested.

Mr. **Lehman**. Mr. Coughlin, do you have any other questions?

Mr. **Coughlin**. No other questions at this time, Mr. Chairman.

Mr. **Lehman**. We will come back around 2 p.m., Admiral. You won't be here at that time?

Admiral **Engen**. If I can, sir, I have got several other balls in the air.

QUESTIONS SUBMITTED FOR THE RECORD

Mr. **Lehman**. Mr. Dixon and Mr. Gray have some questions which I shall insert in the record.

SECTION 8(A) CONTRACT AWARDS

Mr. **Dixon**. Please explain the process by which the FAA responds to an 8(a) invitation by the SBA.

[The information follows:]

To our knowledge, SBA does not issue invitations. SBA does, from time to time, request that a specific procurement be reserved for award under Section 8(a) of the Small Business Act, as they did by letter of December 11, 1985, when they requested that the "New Generation Equipment Runway Visual Range (RVR) Systems" be reserved for AVW Electronic Systems, Inc. When such a request is received, the FAA reviews the proposed acquisition to determine whether it is suitable for procurement as an 8(a) set-aside and whether it has already been reserved for a specific 8(a) firm.

Mr. **Dixon**. Does the FAA customarily evaluate the capabilities of an 8(a) concern before it decides to set aside an 8(a) contract?

[The information follows:]

If the procurement, because of its content, is susceptible to an 8(a) set-aside, that decision would be made first and subsequently the decision on which firm to set it aside for. Sometimes a decision is made to conduct a limited technical competition among a limited number of 8(a) firms. In general, the capabilities of a specific 8(a) concern are not relevant to the decision as to whether or not a set-aside is appropriate.

Mr. **Dixon**. Why didn't the FAA evaluate the capabilities of AVW Electronic Systems, Inc., before it determined that the contract was not appropriate to set-aside?

[The information follows:]

The determination was made that the RVR procurement was not appropriate for a set-aside, based upon the fact that this is a new generation system, never before manufactured, which is to be designed to functional specifications. The system is a critical link in precision runway approach procedures and is, therefore, vital to aviation safety. The FAA concluded that it must not limit itself to a single technical approach to meeting the specification but must instead obtain design alternatives through a competitive procurement. The capabilities of AVW Electronic Systems, Inc. or any other 8(a) firm were irrelevant to this determination.

Mr. **Dixon**. I understand that the FAA set-aside the procurement of the RVR System seven months ago in favor of another 8(a) contractor but has now imposed new design specifications which make it more difficult for an 8(a) contractor such as AVW to participate in the contract. Does this fulfill the Congressional mandate to promote disadvantaged small business contractors who are qualified to perform a procurement?

[The information follows:]

The FAA was able to write a new generation, functional specification, to take advantage of new technology and thereby acquire RVR systems which will be much less labor intensive to maintain and which will thus have a greatly reduced life-cycle cost. The standard of FAA acquisition is to acquire those systems which will best meet the needs of the agency and the flying public, not those systems which can most easily be produced by small and small disadvantaged concerns. There is no Congressional mandate to acquire obsolete systems in order to promote the SBA 8(a) program. The FAA will yield to no agency in its support to the minority business programs, with more than $120,000,000 of direct 8(a) contracts awarded in Fiscal Year 1985.

Mr. DIXON. Can you suggest some compromise that would meet any legitimate concerns of the FAA and still provide for the services of AVW?

[The information follows:]

For the reasons cited above the FAA cannot agree to restricting the competition for the RVR systems. AVW is welcome to compete for these systems and will be afforded every consideration in the evaluation of proposals and selection of a contractor.

Mr. GRAY. Is the budget request adequate to ensure safety without some reductions in system capacity?

[The information follows:]

The budget we have submitted for FY 1987 is adequate to ensure safety without reductions in system capacity.

Mr. GRAY. You have indicated an intent to protect safety-critical programs in the FAA at the expense of noncritical programs. What programs are being reduced? In time, won't reductions in these noncritical programs have an adverse impact on safety and/or system capacity?

[The information follows:]

The less critical programs that have been reduced include Radar Microwave Link replacement and expansion, Communications Facilities Consolidation, Remote Maintenance Monitoring System, National Radio Communications System, and acquisition of test equipment and aircraft avionics. These programs if not pursued in future years will adversely affect our ability to contain operations costs but should not adversely impact safety nor system capacity.

Mr. GRAY. There is a strong interrelationship between safety-critical and noncritical programs of the FAA. Therefore, to ensure the highest margin of safety possible in the air transportation system, would it not be better to cut personnel and budgets of all programs equally? Won't selective cuts set up imbalances that will ultimately affect safety margins and/or system capacity?

[The information follows:]

We do not believe that selective cuts set up imbalances in the program. On the contrary, selective cuts allow us to ensure that safety critical programs are adequately funded, as well as other priority programs.

Mr. GRAY. 1985 was the second worst in U.S. aviation history in terms of the total number of commercial aviation fatalities.

What major inadequacies in the air transportation system were revealed by the 1985 statistics?

[The information follows:]

Although 1985 has been called the second worst year in U.S. aviation history in terms of commercial aviation fatalities, completed investigations and ongoing investigations do not indicate major inadequacies or trends. Each fatal accident had a cause peculiar to that event. The fatal accident rate continued its long-term and steady decrease.

Mr. **Gray**. Are there any new initiatives in the fiscal year 1987 request to address problems or potential problems revealed by the 1985 statistics?

[The information follows:]

Programs included in the 1987 budget are based on long range safety initiatives. Some of the programs that were implemented and actions that were taken as a result of accidents that occurred in 1985 are—

The Flight Standards National Inspection Plan (NIP) was published. This plan calls for special and indepth inspections of air carriers and air agencies. Inspections of airlines operating military charters are also part of this plan.

Airport Radar Services Areas (ARSAs). This plan encompasses and defines the ARSA and establishes air traffic rules for operations within such an area. This program resolves potential conflicts between operating aircraft thus reducing the possibility of Near Midair Collisions (NMACs).

Next Generation Weather Radar (NEXRAD) and terminal Doppler radar. These systems detect wind shear and other hazardous weather conditions.

An emergency Airworthiness Directive was issued for a mandatory inspection program of Pratt & Whitney JT8D engines.

The 1985 statistics did not reveal a trend but an anomaly. Initiatives included in the 1987 budget will be for long term, potentially long term, or inherent problems revealed in aviation safety statistics.

Mr. **Gray**. What is the current status of the National Airspace Systems (NAS) plan? How far behind schedule is it? What effect would moving the Airport and Airways Trust Fund off-budget have on the implementation schedule for the plan?

[The information follows:]

With the $4.0 billion already approved during the period FY 1982-1986 the goals and objectives of the NAS Plan have been basically kept on schedule. The most critical modernization; i.e., terminal radar replacement, host computer, advanced automation, Mode S, MLS and NEXRAD, virtually all solid state replacements, are proceeding as planned. FAA/OST, through prudent management, has minimized the schedule impact of the $1.2 billion reduction on the most critical programs within the NAS Plan. Critical to completion of the NAS Plan is renewal of the Trust Fund and complementary authorization levels. Loss of planned Trust Fund levels would require revision and delay of the NAS plan and would lead to loss of FAA/USER benefits, and a delay in implementation of major programs.

Mr. **Gray**. What has been the level of minority business participation in contracts awarded by the FAA for fiscal years 1985, 1984, and 1983?

[The information follows:]

The level of minority business participation in contracts awarded by FAA is as follows:

FY-83	$71,015,000
FY-84	$100,160,000
FY-85	$142,600,000

PARTICIPATION OF HISTORICALLY BLACK COLLEGES AND UNIVERSITIES

Mr. **Gray**. What about Historically Black College and University participation for the same time period?

[The information follows:]

In implementing Executive Order 12320 which mandates Federal agencies to significantly increase the participation of Historically Black Colleges and Universities (HBCU) in sponsored programs, the FAA has record of the following levels of funding:

Fiscal Year 1983—The FAA awarded to HBCU 33% ($943,544) of the total awards ($2,867,544) to all Higher Education Institutions (HEI) for Research and Development, Facilities and Equipment (including Airway Science Curriculum grants) and the Cooperative Education Programs.

Fiscal Year 1984—The FAA awarded to HBCU 47% ($2,440,266) of the total awards ($5,190,266) to all HEI for the categories shown above in FY 83.

Fiscal Year 1985—The FAA awarded to HBCU 37% ($3,027,430) of the total awards ($8,243,980) to HEI for the categories shown above in FY 83.

Note.—The lack of a uniform and systematic method of reporting awards for the HBCU Performance Report prior to Fiscal Year 1985 might result in an understatement of funds awarded to all HEI—thus, a distorted picture of the percentage awarded to HBCU.

Mr. GRAY. Have there been any special initiatives or efforts aimed at improving the Agency's efforts in this area?

[The following information follows:]

Through strong emphasis on implementation of Executive Order 12320, concerted and definitive initiatives have been taken by the FAA to significantly increase the involvment of HBCU in the agency's sponsored programs and activities. The following actions since 1983 are noteworthy:

Through the Office of Civil Rights, created a new senior level position and hired a program manager to establish an effective FAA HBCU Program for the specific purpose of identifying ways and means of directing support to HBCU (1984).

Following a thorough briefing on the status of agency's HBCU Program, the Administrator (1) approved a set of recommendations aimed at improving the overall direction and administration of the FAA HBCU Program; and (2) issued several procurement and legal initiatives aimed at eliminating barriers which in the past have inhibited efforts to do business with Historically Black Colleges and Universities (July 1985). Some of these initiatives have been accomplished; others are being actively pursued (See Attachment A for statement of initiatives).

In February 1986, the Administrator issued a directive to all of the agency's Associate Administrators and the Heads of Offices and Services which clearly states his commitment to involving the Nation's Historically Black Colleges and Universities in FAA sponsored programs and activities. This directive reflects a greater emphasis on implementing Executive Order 12320 on Federal support to HBCU by encouraging their participation in FAA's Research & Development activities, the Airway Science Program and the Cooperative Education Programs (See Attachment B).

Through conferences, workshops, visits, and other forms of communication, the HBCU Program staff are in constant contact with the staff of Historically Black Colleges and Universities and the FAA program managers to facilitate efforts to increase the involvement of HBCU in FAA sponsored programs and activities.

Attachment A

INITIATIVES APPROVED BY THE ADMINISTRATOR TO ENHANCE THE HBCU PROGRAM

I. BUILD ON FAR EXCEPTION 3 TO FULL AND OPEN COMPETITION. FAR PROVIDES THAT A NON-COMPETITIVE PROCUREMENT CAN BE JUSTIFIED TO ESTABLISH OR MAINTAIN AN ESSENTIAL ENGINEERING, RESEARCH OR DEVELOPMENT CAPABILITY OF AN EDUCATIONAL OR NON-PROFIT INSTITUTION. THE KEY WORD FOR OUR PURPOSES IS "ESTABLISH". USING THIS AUTHORITY FAA COULD SELECT ONE OR MORE HBCU'S WITHIN WHICH TO ESTABLISH A SPECIFIC CAPABILITY FOR FAA LONG-TERM USE.

Would provide FAA a means of establishing and maintaining a long-term, non-competitive relationship with one or more HBCU's.

Problems: OST would have to support this approach, since it is a first-time interpretation within DOT of this portion of the Competition in Contracting Act, and would result in non-competitive solicitations.

FAA would need, in some manner, to select specific HBCU's to match the capabilities which we intend to establish. This selection will also mean non-selection for most HBCU's, causing obvious political problems.

FAA must, before a proposal from an HBCU is solicited, prepare a public annoucement in the Commerce Business Daily announcing our intention to solicit a non-competitive proposal from a specific HBCU. We would try to ram it through by this method, but it is possible at this stage that other organizations (colleges, universities, other HBCU's, private sector firms) could claim a capability, object to the FAA intention and file a formal protest. If they prevailed, we would have to abandon the program at this point.

Action: Acquistion and Materiel Service would solicit OST views on this procedure and attempt to obtain OST permission.

Office of Civil Rights and program offices will establish areas of need and identity the HBCU's with capabilities to fulfill the needs.

II. ATTEMPT TO INTEREST HBCU's IN SUBMITTING UNSOLICITED PROPOSALS

If FAA receives an unsolicited proposal which demonstrates a unique and innovative concept, the substance of which (i) is not otherwise available to the Government and (ii) does not resemble the substance of a pending competitive acquisition, a non-competitive procurement to the submitter is justified.

Problem: It is very difficult, without describing specific FAA requirements, for HBCU's to guess what it is that we want. Most often that which is proposed is something that we do not need. If we were to describe specific FAA requirements, we would then be soliciting proposals, not accepting unsolicited ones, and would be subject to the requirements to do this competitively.

The result would be the expenditure of funds by HBCU's to prepare unsolicited proposals, with only a random chance that the proposals would be funded by FAA.

Action: The Office of Civil Rights, perhaps accompanied by program personnel, should visit HBCU's and acquaint them with this opportunity and the procedure to submit unsolicited proposals. Perhaps a public announcement would also be beneficial, with general areas of FAA interest identified.

III. REQUEST INCLUSION IN FAA AUTHORIZING OR APPROPRIATION LEGISLATION AUTHORITY TO ENTER INTO GRANTS AND COOPERATIVE AGREEMENTS

This authority would permit us to award either a grant or a competition or with limited competition, since neither of these instruments are covered by the Federal Acquisition Regulations. This is the technique used by other Government agencies, including NASA and DOE, and by other agencies of DOT such as RSPA, UMTA and FRA. Inclusion of this authority would broaden FAA flexibility, not only for instruments with HBCU's, but also for agreements with governmental instrumentalities and other educational instituions.

Problem: There is a long period until it would become effective -- FY 1987 at the earliest.

Action: The Office of Civil Rights, in coordination with Chief Counsel, shall request the Office of Budget to seek this authority.

IV. CONTINUE TO ATTEMPT TO LINK 8(a) FIRMS AS PRIME CONTRACTORS WITH HBCU's AS SUBCONTRACTORS, INCLUDING THE POSSIBILITY OF COMPLETE PASS-THROUGHS FROM THE HBCU, i.e.; AWARD A CONTRACT TO AN 8(a) FIRM, AND HAVE THE WORK 100% SUBCONTRACTED TO AN HBCU.

This would permit non-competitive awards through the SBA 8(a) program.

Problems: This would increase costs, because the 8(a) firm must charge overhead and would probably charge profit on the work performed by the HBCU.

This tends to be a "trickle down" approach, with a small portion of the contract price being subcontracted to the HBCU.

SBA can be expected to object -- perhaps balk -- at a 100% pass-through.

Action: No change from present procedures when 100% pass-through is not involved. If 100% pass-through should be proposed, consultation with SBA would be required.

V. CONTINUE TO RELY ON THE DOT UNIVERSITY RESEARCH PROGRAM ADMINISTERED BY OST.

This is an accepted method of awarding contracts to colleges and universities, including HBCU's for transportation research proposed by colleges and universities in response to a general DOT solicitation.

Problem: As with the unsolicited proposals, the projects suggested to us most often are not those projects that FAA wants or needs. In addition, the relationship with a specific HBCU is a short one, one to two years, until the specific project is completed.

Contrasted to the technique of submitting unsolicited proposals to the FAA, the DOT University Research Program results in colleges and universities competing against each other for a fixed pot of funds. While some HBCU contracting opportunities will continue to be found through this program, it will not be enough to meet the Presidential mandate.

Action: No change from present procedures.

VI. AWARD GRANTS THROUGH ANOTHER DOT ADMINISTRATION, IN EFFECT LAUDERING OUR FUNDS BY WRITING AGREEMENTS IN THE NAME OF AN ADMINISTRATION THAT HAS AUTHORITY TO WRITE GRANTS (RSPA, FRA, OST, UMTA). FAA WOULD PREPARE THE AGREEMENT, REQUEST THAT SOMEONE IN THAT ADMINISTRATION AUTHORIZED TO AWARD GRANTS SIGN IT AND THEN RETURN IT TO FAA FOR ADMINISTRATION. FOR INSTANCE, OST HAS LIMITED GRANT AUTHORITY IN CONNECTION WITH THE MINORITY BUSINESS RESOURCE CENTER, NOW ABSORBED IN S-40.

This would permit us to do what others can do in DOT — award grants and cooperative agreements, with FAA doing all of the work in awarding and administering, relying upon the other administration only for the signatory authority.

Problem: It may not be legal

Action: Office of Chief Counsel should explore legality particularly of having OST's S-40 execute the grants.

July 19, 1985

Attachment B

US Department
of Transportation
Federal Aviation
Administration

Memorandum

Subject **ACTION:** Implementation of Executive Order 12320; Increased Support of Historically Black Colleges and Universities (HBCU)

Date FEB 13 1986

From Administrator

Reply to Attn of

To Associate Administrators
Office and Service Heads
Regional and Center Directors

I ask you to join with me in our efforts to achieve a significant increase in the participation of Historically Black Colleges and Universities (HBCU) in FAA-sponsored programs. In the last 100 years these colleges and universities have educated generations of Black Americans who have contributed to this Nation's growth in all areas of human achievement. This tradition of educational excellence can be assured by the strengthening of the capacity of these institutions to provide quality education in the years ahead. The FAA can play an important role in supporting the Federal Government's policy of assisting HBCU. In these times of severe budgetary restraints it should be understood that I am not advocating increased funding for projects suitable for involving educational institutions, but that we target more sensitively those funds that will be used.

President Reagan has directed that:

> Wherever possible, agencies should place emphasis on the use of program funds to help improve the administrative infrastructures of HBCU . . . in cases where decreased funding is projected for all higher education institutions, agencies should strive to increase the percentage share allocated to HBCU, and . . . continue efforts to eliminate identified barriers to HBCU participation in Federal programs . . . .

I have directed that a number of procurement, legislative, and program initiatives be pursued in support of the President's Executive Order 12320 that will facilitate the participation of HBCU in the work of the FAA. These initiatives require that new and imaginative ways of satisfying the FAA's requirements be examined. To understand and be effective we each should become familiar with the excellent technical and research capabilities possessed by many of the Nation's HBCU. My initiatives require your personal involvement.

I have asked the Office of Civil Rights to work with you in identifying specific programs and activities within your organizations suitable for HBCU participation. I believe opportunities for increased HBCU involvement in the work of this agency exist. With your cooperation FAA will assist in the continuation of educational achievement for Black Americans well into the next century.

The chief goal of this drive will be measured by the achievement of a distinct increase in the number of HBCU involved in contracts, grants, and education and training opportunities with the FAA. Therefore, it seems advisable to focus upon the following as the Associate Administrators, and the Heads of Offices and Services search for opportunities and ways to eliminate barriers to the enhancement of HBCU involvement in FAA programs and activities:

- Identify Specific Programs and Activities That are Suitable for Involving HBCU.

  During the annual planning process, each office should carefully examine its current program activities and budgeted projects and select those that have the greatest potential for supporting the President's Executive Order 12320 and his policy directive.

  Programs and activities sponsored by the FAA that are suitable for HBCU participation include: (1) research in the areas of fire, safety, propulsion, crashworthiness, airworthiness, and aviation security; (2) the Airway Science Program; and (3) the Cooperative Education Program. Program officers should work with the Office of Civil Rights staff to match HBCU capabilities with the needs of these programs and activities.

- Identify Specific Essential Programs and Activities That will Enable the Agency to Build a Capability in One or More HBCU Through Long-Range Contractual Relationships for Engineering, Research, or Development Support, Using the Authority of FAR 6.302-3(a)(2).

- Take Initiatives to Involve the Private Sector in Collaborative Efforts With HBCU on FAA Programs and Projects.

  In reviewing programs, projects, and areas of potential contracts, FAA service and program managers should seek to identify ways of developing joint venture agreements between HBCU and private sector firms (8a) as called for in the President's directive. These types of ventures would be most appropriate when the scope and nature of the work provide opportunities for strengthening the HBCU infrastructure and the enhancement of capabilities in certain areas of these institutions.

- Whenever Possible, Improve Opportunities for Strengthening the HBCU Infrastructure by Providing Technical Assistance and Appropriate Information.

  Conducting workshops, visiting HBCU campuses, and hosting HBCU representatives at FAA facilities such as the FAA Technical Center are a few examples of ways to assist in strengthening the infrastructure of HBCU.

In view of the July 1985 briefing on the FAA's HBCU Program and subsequent discussions, I feel confident that significant improvements can be made in implementing the President's Executive Order 12320 to increase substantially the participation of HBCU in FAA-sponsored programs and activities. In the near future, I will be asking the Office of Civil Rights to make arrangements for Associate Administrators and the Heads of Offices and Services to report on the progress that has been made on the initiatives I approved on July 19, 1985, for improving FAA's HBCU Program.

Finally, the positive responses that I have received and the commitment that I sense to the spirit and intent of Executive Order 12320 at all levels of the agency are encouraging. Your response to the spirit and direction of this memorandum is expected and will be appreciated.

Donald D. Engen
Donald D. Engen

SES WOMEN AND MINORITIES

Mr. **Gray**. What is the current percentage of minority and women participation in the Senior Executive Service at the Agency? How has Gramm-Rudman and other budgetary reductions impacted the level of minority and women participation in the SES? How does the current level compare to four years ago?

[The information follows:]

Women occupy 2 percent of the filled SES positions in FAA and 6 percent are filled by minority employees. Budgetary reductions that limit travel and training expenditures adversely impact agency sponsored career development efforts to prepare minority and women employees to compete for SES vacancies. Four years ago there were no women SES employees in the FAA. There has been no change in the percentage of SES members who are minority over the last four years.

NON-SES WOMEN/MINORITY EMPLOYMENT

Mr. **Gray**. What about non-SES minority and women employment? How has Gramm-Rudman and other budgetary reductions impacted the level of minority and women participation in non-SES programs? How does the current level compare to four years ago?

[The information follows:]

As of January 1986 minorities make up 13.9 percent of the non-SES work force—an increase of 1.2 percent from the 12.7 percent level in January 1982. The current female representation is 18.4 percent as compared to 15.6 percent four years ago. Gramm-Rudman and other budgetary reductions have resulted in curtailment or suspension of special emphasis employment programs through which women and minorities are specifically targeted for recruitment. Additionally, fiscal constraints have adversely impacted outreach recruitment such as travel, paid advertising, participation in job fairs and conferences, and other activities.

DISCRETIONARY AIRPORT DEVELOPMENT FUNDS

Mr. **Gray**. What factors have contributed to decisions related to the approval of discretionary airport development funds? What role does economic development potential and job creation play?

[The information follows:]

A priority system is used to distribute discretionary funds. It assures major safety work is accomplished first and then emphasizes development of aircraft operating surfaces (runways first, taxiways second, aprons third) at airports. Although there is no specific factor related to economic development in the priority system, major airports have significant beneficial economic, including job generating, impacts on their surrounding communities, and our grants certainly contribute to the economic well being of these communities.

Mr. **Gray**. What major airports are currently in the discretionary funding pipeline? Cost at?

[The information follows:]

Over half of the major airports are currently in the discretionary funding pipeline. For example, of the top 21 "pacing" airports, 14 have received or will receive discretionary funding this year and one or two more may be added before the year is over. The discretionary amount at the 14 airports amounts to $37.6 million so far.

AFTERNOON SESSION

HOST CONTRACT AWARD

Mr. **Lehman**. The Committee will reconvene.

You are requesting $18.2 million for contract maintenance, installation, testing, and integration of the new Host computers. The Host contract was awarded last summer. Would you compare the two bids for us, and briefly explain why you chose IBM?

Mr. HUNT. Mr. Chairman, the technical and business management proposals submitted by both IBM and Sperry were scored. IBM scored significantly higher than Sperry. In addition, the IBM proposal was judged to have a low schedule and cost overrun risk. In contrast, Sperry's proposal was judged to have a high schedule risk and medium to high cost overrun risk.

Finally, the evaluated costs of the IBM proposal was 26 percent less than Sperry's proposal.

Mr. LEHMAN. Please explain your plans for disposing of the $72.22 million in appropriated funds that was saved in the Host contract award.

Mr. HUNT. We plan to utilize those savings realized in the Host computer system acquisition to fund the zero sum supplemental appropriation request that you should be receiving soon. With your consent and approval, the $72 million will be made available to RE&D appropriation, and will fund requirement changes made in the AAS design competition phase contracts. The AAS prime contractors would get $62.3 million, the SEI contract support would get the balance or $9.9 million, of the total $72.2 million.

Mr. LEHMAN. You have testified in previous years that you were highly confident the Host could be installed on time. Are you, in fact, meeting your original installation schedule? I believe that schedule called for installing this equipment at the first site sometime this month.

Mr. HUNT. We have successfully delivered Host computer systems to the FAA Technical Center, the FAA Aeronautical Center, and one each to the AAS prime contractors, Hughes and IBM, on time. However, re-hosting of the latest version of the NAS software together with the update of the government documentation has taken more time than anticipated. Consequently, delivery to the first operational site, Seattle ARTCC, has been delayed beyond the scheduled May 1986 delivery. We are currently assessing the extent of this schedule and, based on preliminary analysis, expect the program to be delayed a minimum of three months.

Mr. LEHMAN. Beyond the May date?

Mr. HUNT. Beyond the May date, yes, sir.

SCHEDULE FOR HOST COMPUTER

Mr. LEHMAN. Please provide for the record a summary of how you are proceeding against your original timetable for (a) converting to the release of the NAS software specified in the contract, and (b) testing the Host's ability to handle, within specified response times, the 1995 workload.

[The information follows:]

The Host Computer System Acquisition Phase contract was awarded July 26, 1985, and the current release of NAS software (A3d2.14) was given to IBM immediately thereafter. Testing of the NAS support software began as scheduled in February 1986 and is proceeding satisfactorily. However, acceptance testing of the NAS operational software has not yet begun due to unanticipated difficulty in rehosting the current version and updating the Government documentation. The acceptance testing was to have concluded in April; we are currently assessing the extent of this schedule delay.

IBM has been able to informally run the Host capacity tests using preliminary builds of the current version. The 600 track load tests, the 1995 workload, has been successfully run several times, with results showing 30-35 percent computer utilization, compared to the specified 43 percent. Even though testing is informal using preliminary software builds, we are confident that the 1995 workload can be handled within specified requirements.

OPERATIONAL DELAYS

Mr. LEHMAN. Have the centers predicted by your model to reach unacceptable "operational delays" due to 9020 computer capacity shortages actually experienced such capacity shortages? If so, which centers have been affected and what was the frequency and duration of such shortages?

Mr. HUNT. The predictions made several years ago related to the computer saturation, has occurred as we reported to the Congress in August of 1985, at a number of centers. The centers affected generally have been those with the 8020A. The frequency and duration of the shortages was much as expected. It was necessary to use professional workaround to avoid having an impact on the operations.

Mr. LEHMAN. What did these centers do to mitigate their computer capacity problems, and how did this affect the safety of the aircraft being controlled?

[The information follows:]

FAA went through a period during which many sectors in a number of facilities experienced capacity problems. Through rebalancing of sectors and some program adjustments, FAA has been able to keep this problem from causing operational delays. An example of sector adjustment is the recent transfer of two sectors from Atlanta Center to Memphis Center.

HOST INSTALLATION/OPERATIONAL TIMETABLE

Mr. LEHMAN. Please provide for the record a Host timetable showing when the equipment will be installed at each site and when each site will be operational on the new Host.

[The information follows:]

The schedule shown below is our planned delivery and operational readiness schedule for each host site. However, the rehosting of the latest version of the NAS software together with the update of the Government documentation have taken more time than anticipated. Consequently, delivery to the ARTCC's has been delayed. We are currently assessing the extent of this schedule delay, but believe it to be at least three months.

ARTCC HOST COMPUTER SYSTEM SCHEDULE

[Based on July 26, 1985 contract]

ARTCC	Delivery	Operational
1. Settle	5/23/86	11/26/86
2. Houston	7/25/86	1/26/87
3. Denver	9/05/86	3/11/87
4. Boston	9/26/86	3/26/87
5. Leesburg	10/10/86	4/11/87
6. Chicago	10/24/86	4/26/87
7. Oakland	11/21/86	5/26/87
8. Albuquerque	12/05/86	6/11/87
9. Memphis	12/26/86	6/26/87
10. Cleveland	1/09/87	7/11/87

ARTCC HOST COMPUTER SYSTEM SCHEDULE—Continued

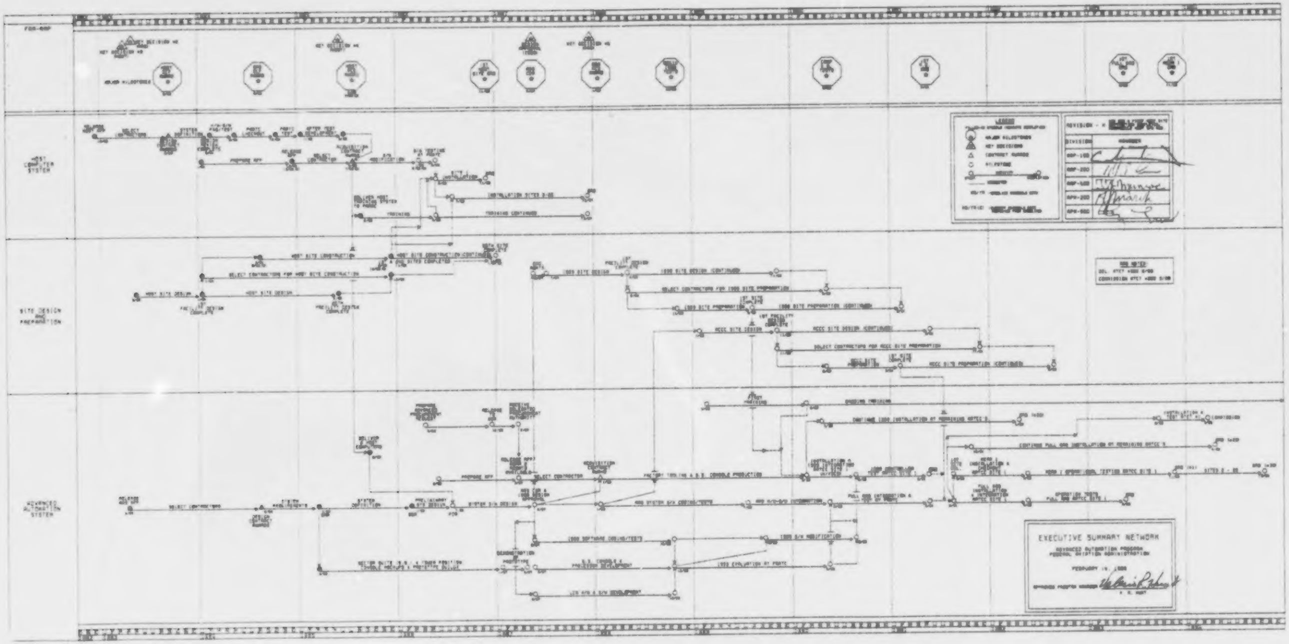
[Based on July 26, 1985 contract]

ARTCC	Delivery	Operational
11. Atlanta	1/23/87	7/26/87
12. Miami	2/06/87	8/11/87
13. Los Angeles	2/20/87	8/26/87
14. New York	3/06/87	9/11/87
15. Kansas City	3/20/87	9/26/87
16. Minneapolis	4/10/87	10/11/87
17. Indianapolis	4/24/87	10/26/87
18. Jacksonville	5/08/87	11/11/87
19. Fort Worth	5/22/87	11/26/87
20. Salt Lake City	6/05/87	12/11/87

Mr. LEHMAN. Please also provide for the record an updated PERT chart of Host and AAS milestones, key decisions, and contract award dates.

[The information follows:]

An updated Executive Summary Network showing Host and AAS milestones is provided for the record (attached).



EXECUTIVE SUMMARY NETWORK

ADVANCED AUTOMATION PROGRAM
FEDERAL AVIATION ADMINISTRATION

HOST COMPUTER MAINTENANCE AND TESTING

Mr. **LEHMAN**. Regarding your $18.296 million Host computer request for contract maintenance, etcetera, why wasn't this work included as part of the price of the original contract you awarded last summer? Was this maintenance and testing work not anticipated? If not, why not?

Mr. **HUNT**. The requirement was included in the original contract as a fixed price option. At the time the contract was awarded, the FAA was still considering the issue of whether contract maintenance or in-house maintenance would be performed on the Host computer systems. Now a decision has been made to exercise this option, and to contract out the first year of maintenance.

Mr. **LEHMAN**. As we understand it, you have contracted with IBM to provide hardware and software maintenance for the Host for next year after site installation. Last year we were told you were studying the question of whether FAA personnel should take over Host maintenance after that. What did you conclude in your study? And, if FAA staff will maintain this equipment, do you have sufficient staff to handle it?

[The information follows:]

The current contract calls for IBM to perform contract maintenance support for the 1st year after installation of the Host computer with nine one year options for contract maintenance. Our analysis has indicated that the 3rd year after installation would be the optimum period for the FAA to assume maintenance. Adequate staffing will be made available at that time.

Mr. **LEHMAN**. I know there were differences last year between FAA and GAO over the question of how much access GAO staff could have to the Host bids prior to contract award. We were told by the Office of the Secretary that extraordinary precautions were being taken to assure the secrecy of these bids. Were these bids kept confidential to your satisfaction?

Mr. **HUNT**. Yes, sir, they were.

HOST TEST ANALYSIS RESULTS

Mr. **LEHMAN**. Please provide for the record a summary of the test analysis results of the Host design competition phase.

[The information follows:]

The Tables below summarize the Host DCP test results. They are taken from "Advanced Automation Program Host Computer System Design Competition Phase Test Report," DOT/FAA/CT-TN85/55b, September 1985, a copy of which will be forwarded to you.

HCS DCP TEST RESULTS OVERVIEW - IBM

TEST AREA	TEST	RESULTS IBM
NAS OPERATIONAL SOFTWARE	NAS OPERATIONAL MONITOR	SUCCESSFUL
	NAS FUNCTIONAL	SUCCESSFUL
	CAPACITY AND RESPONSE TIME	SUCCESSFUL
	RECONFIGURATION	PARTIALLY SUCCESSFUL
	FAILURE/RECOVERY	PARTIALLY SUCCESSFUL
	RECORDED LIVE RADAR	SUCCESSFUL
	DYNAMIC BUFFERING	SUCCESSFUL
NON-OPERATIONAL OPERATIONAL SOFTWARE	VMCP/MONITOR	SUCCESSFUL
	SYSTEM BUILD	SUCCESSFUL
	UTILITY SOFTWARE	SUCCESSFUL
	DIAGNOSTICS	PARTIALLY SUCCESSFUL PARTIAL DATA COLLECTION
	MAINTENANCE SOFTWARE	MOSTLY SUCCESSFUL
	SUPPORT SOFTWARE	SUCCESSFUL
	HARDWARE FABRICATION AND INSTALLATION	MOSTLY SUCCESSFUL

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HCS DCP TEST RESULTS OVERVIEW - SPERRY

TEST AREA	TEST	RESULTS SPERRY
NAS OPERATIONAL SOFTWARE	NAS OPERATIONAL MONITOR	MOSTLY FAILURE
	NAS FUNCTIONAL	PARTIALLY SUCCESSFUL
	CAPACITY AND RESPONSE TIME	PARTIALLY SUCCESSFUL, PARTIAL DATA COLLECTION
	RECONFIGURATION	PARTIALLY SUCCESSFUL, PARTIAL DATA COLLECTION
	FAILURE/RECOVERY	MOSTLY FAILURE
	RECORDED LIVE RADAR	MOSTLY SUCCESSFUL
	DYNAMIC BUFFERING	FAILURE
NON-OPERATIONAL OPERATIONAL SOFTWARE	VMCP/MONITOR	SUCCESSFUL
	SYSTEM BUILD	SUCCESSFUL
	UTILITY SOFTWARE	SUCCESSFUL
	DIAGNOSTICS	PARTIALLY SUCCESSFUL, PARTIAL DATA COLLECTION
	MAINTENANCE SOFTWARE	MOSTLY SUCCESSFUL
	SUPPORT SOFTWARE	MOSTLY SUCCESSFUL
	HARDWARE FABRICATION AND INSTALLATION	SUCCESSFUL

- Successful - Indicates that the HCS met all test requirements.
- Mostly Successful - Indicates that the HCS met all but a small percentage of test requirements.
- Partially Successful - Indicates that the HCS met many of the test requirements, but failed to meet a significant number of test requirements.
- Mostly Failure - Indicates that the HCS met only a small percentage of test requirements.
- Failure - Indicates that the HCS failed to meet test requirements.
- Partial Data Collection - Indicates that sufficient HCS-generated data were not provided to satisfy all Engineering Requirements (ER's).

In summary, the DCP test results and the post-test problem resolutions indicated that both contractors could have provided a system that met the requirements for the AP.

IBM/SPERRY TESTING

Mr. LEHMAN. We understand you judged the Sperry system to have failed Host DCP tests related to the NAS operational monitor, failure/recovery, and dynamic buffering. We also understand that IBM was only "partially successful" in DCP testing related to failure/recovery, and reconfiguration. Would you explain why both of these systems still were judged to meet your procurement requirements in spite of these testing deficiencies?

[The information follows:]

There were twenty-two test series conducted in the Host DCP. The preponderance of these test series were successfully conducted. Our evaluation of the proposals and test results led us to conclude that both companies could perform the Host software conversion. The failures and "partially successful" tests series were the primary input to our risk assessment. IBM was judged to have a low acquisition phase schedule risk (1-3 months), whereas the Sperry schedule risk was judged to be high (12-19 months).

COST-SAVING BENEFITS

Mr. LEHMAN. Please provide for the record a detailed explanation of the benefits derived by the FAA and the taxpayers of running a Host design competition prior to award of the Host contract. In particular, did the DCP produce any technological improvements that would not otherwise have been made, or were cost-saving equipment and procedures developed that would not otherwise have been developed?

[The information follows:]

The primary benefit to the taxpayers of the Host Computer Design Competition Phase was the cost savings resulting from the competition. The total contract was awarded for $86 million below the Government estimate.

Another important benefit was that the successful software rehost during DCP gave us increased confidence that the current software version could be successfully rehosted and enabled us to specify with confidence a much greater Host computer system reliability requirement. This higher reliability could be achieved by a combination of modern, highly reliable hardware and improvements to the software. These software improvements in error detection and handling could not have been made without the design competition phase.

ADVANCED AUTOMATION SYSTEM DESIGN

Mr. LEHMAN. On page 24 you are requesting $61.826 million to supplement the $246.8 million that has already been provided for the advanced automation system design competition between Hughes Aircraft and IBM. This is an increase of 25 percent to the cost of this design competition. Why do you require so much in additional funding—are you adding more "bells and whistles" to the AAS? If so, what are they, and why are they needed?

Mr. HUNT. The additional funding is required to fund the increases in functional requirements that were incorporated in the AAS designs. Also, a six-month schedule extension was required to accommodate the performance of these changes. Major changes are the addition of color for the controllers' displays, the design of the VSCS console equipment and update of the AERA-1 requirements.

Color has always been a controller requirement. It was added after the beginning of the AAS, DCP contracts because of significant advances in display technology which placed it within the state of the art. The VSCS console equipment design responsibility was moved from the VSCS program to AAS in order to give the FAA an integrated sector sweep console man-machine interface design. AERA-1 requirements were updated to reflect changes in requirements that resulted from extensive air traffic controller reviews of the original set of AERA-1 requirements.

DCP CONTRACT CHANGES

Mr. LEHMAN. Please provide for the record a detailed breakdown of all changes to the DCP contracts approved by the Secretary in October 1985 including the cost of each item, the reason why each was added or changed, and the additional time each will add to completion of the contract.

[The information follows:]

BREAKDOWN DCP CONTRACT CHANGES

In October 1985, the Deputy Secretary of Transportation approved the incorporation of the following changes in the AAS Design Competition Phase contracts. The changes were required to assure the development of an operationally acceptable system and provide a 6 month extension to allow for a realistic schedule for development associated with the changes.

SECTOR SUITE SPECIFICATIONS

1. Sector Suite man-machine interface (MMI) requirements - proposed cost, $39.2 million. Early in the program, the FAA Administrator decided that the deployment of sector suites should occur prior to implementation of the full AAS. This was based on several considerations: early implementation of the sector suite would provide controller productivity gains; and this strategy provided a natural phased approach to implementing the AAS to meet program objectives and to minimize the risks of transition by introducing the AAS in a series of manageable steps. This approach also required that the AAS specification be more definitive with regard to man-machine interface requirements and operational test requirements since the sector suites would first be interfaced with the new Host Computer System that is now being implemented.

SYSTEM LEVEL SPECIFICATIONS

2. System level specification refinements - proposed cost, $12.3 million. The AAS contract specified that a formal System Requirements Review (SRR) take place to assure that each contractor and the Government had a common and full comprehension of the system level specification. The AAS contractors were required to analyze the functional requirements in the AAS specification for completeness, consistency, and feasibility. During the SRR contractors proposed changes deemed appropriate to improve or assure understanding of requirements. Each change was evaluated by the Government in terms of technical justification, potential cost/schedule impacts, and life/cycle cost considerations. Only those changes deemed essential in light of Governent minimum requirements were approved.

AERA 1

3. AERA 1 functions - proposed cost, $23.2 million. FAA's Response to Congressional Concerns Regarding the FAA's Advanced Automation Program for Air Traffic Control, DOT/FAA/AAP-85-1, February 1985, addressed congressional AERA

AERA 1 (CONTINUED)

concerns raised by the House of Representatives Committee on Appropriation and reported in Committee Report H.R. 98-859. Our response discussed the design acquisition strategy for the AAS and the specific implementation approach as it related to AERA functions. The FAA has included requirements for specific AERA 1 functions in the system level specification for the AAS. These functions, in conjunction with the upgraded flight data capabilities, will provide the AERA 1 operational building blocks that in some form will eventually interact with the problem resolution and tactical execution functions of AERA 2 and AERA 3.

VOICE SWITCHING AND CONTROL SYTSEM

4. Voice Switching and Control System (VSCS) interface - proposed cost $14.9 million. It was originally planned that the VSCS contractor would design and manufacture the control panel, that is to be included in the Sector Suite common console, and deliver it to the AAS contractor. A concern developed that such an approach could result in an incompatibility between the VSCS man-machine interface and that of the sector suite console. To mitigate this risk, a contract change was made that would require the AAS contractors to provide a VSCS control panel design which best fits the total sector suite man-machine interface and console design.

COLOR DISPLAYS

5. Color displays - proposed cost, $63.4 million. The present system makes critical use of color in flight progress trips to designate direction of flight and preplanned clearance information to potential conflicts and to indicate information passed. At the time the AAS specification was being developed in 1983, it was concluded that the state-of-the-art in color display technology had not progressed sufficiently to ensure that its use could result in an acceptable program risk, and a monochrome display was specified. Subsequent to awarding the AAS DCP contracts, the state-of-the-art has progressed more rapidly than anticipated. A reassessment of the technology indicated that color displays could be used with an acceptable risk. Color displays are required to retain current color use in air traffic control, to provide more discriminants for advanced function, dynamic weather display, controller efficiency, and to display critical groupings on the flight data and situation displays. More important, the application of color will enhance safety by coding priority of controller actions (e.g., handoff rejection vs. conflict alert).

COLOR DISPLAYS

Mr. LEHMAN. What portion of the added DCP cost is due to the design to change controller displays to handle color? And why is color necessary in these displays?

Mr. HUNT. The cost for adding color displays is estimated to be $51 million for the DCP.

Mr. LEHMAN. And you have already explained why it is necessary.

Please expand on your answer for the record.

[The information follows:]

Color is necessary in these displays because it is used in today's flight strips to designate direction of flight, identify preplanned clearance information, indicate potential conflicts, and indicate information passed. In addition, color will provide increased discriminants for advanced automation functions, reduce controller scan times for flight data display information, allow controllers to more easily discriminate data groupings on the flight data display, and help controllers quickly see alerts.

The proposed cost to design to change controller displays to handle color is $63.4 million.

FLIGHT DATA DISPLAY

Mr. LEHMAN. What was the justification for requiring a 20-inch by 20-inch flat display?

[The information follows:]

An analysis of sector size in the late 1990's and beyond indicated that a circular display with a diameter between 20 and 22 inches was required. Experience has shown that a flat display is required as an ATC situation display and it is believed that a fairly flat display will also be required to display flight data. The Electronic Tabular Display System experience showed that a rectangular display was far more preferable over a circular display for alphanumeric data (especially flight data). Controllers judged that the area requirement for flight data exceeds the area available on a 20" diameter circular display. The smallest display that meets all of these requirements is a 20x20 inch square display.

Mr. LEHMAN. What were the cost and technical risks of the decision to go to a 20-inch by 20-inch flat display?

[The information follows:)

A 20x20 inch flat display was an original AAS contract requirement and as such, costs for the display were part of the overall AAS cost estimates. Specific cost of a 20x20 display is not separable from overall AAS cost estimates.

Technicial risks of the 20x20 inch flat display (with color) are very small at this time. Development has been completed and models are undergoing test and evaluation.

Mr. LEHMAN. What other display alternatives were considered and why were they rejected?

[The information follows:)

A 22x22 inch square display was rejected because it was beyond the state of the art. A round display was rejected because it was not appropriate for the flight data display. Dissimilar displays (a round flat display for ATC situation and a less flat rectangular display with lower resolution for first data) were rejected because operational requirements for frequent sector suite reconfiguration necessitate a common console for flight data and situation data.

AAS DEP REQUEST

Mr. LEHMAN. Are there any other requirement changes to the DCP contract being contemplated? If so, what are they, and what is the magnitude of their costs?

Mr. HUNT. No additional requirements are being contemplated.

Mr. LEHMAN. Please provide for the record a breakdown of your $15.475 million engineering support request that makes up part of your overall $61.826 million AAS DCP request.

[The information follows:]

The total $15.475 million requested for engineering support is required to fund System Engineering and Integration contractor support for the AAS during FY-1987.

AAS BENEFIT COST STUDY

Mr. LEHMAN. What is the status of the comprehensive AAS cost/benefit study that we asked you to conduct last year?

Mr. McDANIEL. I can answer that. It is being done apart from the program office itself. We have completed the identification of the specific issues to be resolved in the analysis, and are looking at the technical ways of accomplishing this. Within the next month we should identify the alternatives to be analyzed and assumptions upon which that analysis will be based. In order to be responsive to the Committee, Mr. Chairman, we intend to report back to the Committee about our proposed approach before we move forward.

Mr. LEHMAN. Please expand on your answer for the record, including its cost, the name of any contractors, milestones, completion date, and study outline.

[The information follows:]

We anticipate that the Advanced Automation System benefit-cost study, independent cost estimate and risk assessment requested by the committee will require the funding provided in our FY 1986 appropriation—$3,828,000 ($4.0 million less the Gramm-Rudman-Hollings reduction).

Substantial contractor support is planned for the study effort with major participants expected to be the MITRE Corporation for benefit-cost analyses and technical risk analyses; Systems Requirements and Services Associates, Inc. (an 8a firm), for study management support and air traffic control field data gathering/validation; and TASC (The Analytic Science Corporation) for independent cost estimating.

Regarding milestones, contracts are not yet in place but we do expect to have those completed within the near future. While detailed schedules and milestones will be dependent upon completion of contracting activity, we plan to have preliminary study results prior to the FY 1988 appropriation hearing in the spring of 1987 and completed studies prior to the Advanced Automation System Key Decision Point 4 (commitment of the system to production) in December 1987.

It should be noted that the Steering Committee overseeing accomplishment of this study has representatives not only from within FAA, but also from the Office of the Secretary of Transportation, the Transportation Systems Center, and the Office of Management and Budget. We're also in communication with the General Accounting Office, Information Management and Technology Division, regarding their reviews of previous Advanced Automation System benefit-cost work.

Mr. LEHMAN. What is your current estimate of the costs and benefits associated with the AAS?

[The information follows:]

The FAA cost/benefit estimates for the Advance Automation Program approved in 1982 (DOT/FAA/AAP-82-3, January 1982) show that the benefit and cost estimates were respectively $9.35 billion and $2.33 billion in present value dollars discounted to 1982 dollars.

Mr. LEHMAN. What percentage do the following contribute in terms of costs and benefits: (a) ISSS, (b) AERA 1, (c) AERA 2, (d) AERA 3?

[The information follows:]

The 1982 Cost/Benefit study did not break down the costs and benefits according to the above categories.

AREA 2 BENEFITS

Mr. **Lehman**. What percentage of AERA 2 benefits are dependent on the Mode S datalink?

[The information follows:]

The 1982 cost/benefit study did not break the benefits in such detail.

Mr. **Lehman**. Are any benefits attributed to AERA 2 actually benefits from the Mode S datalink?

[The information follows:]

The 1982 cost/benefit study did not break the benefits in such detail.

PROCEDURAL CHANGES

Mr. **Lehman**. Can you implement procedural changes that provide user and productivity benefits prior to or instead of the AAS and AERA? If so, what are they?

[The information follows:]

Procedural changes to provide user and productivity benefits are made as an ongoing management process, but substantial savings in benefits are tied to the new controller work stations and new functions of the AAS and AERA. One example where new equipment and new procedures will provide productivity benefits is replacement of the archaic flight progress strips with electronic displays.

Mr. **Lehman**. Are procedural changes of this nature planned? If so, what is the timetable for implementing such procedural changes?

[The information follows:]

An example of a procedural change that the FAA implemented last year were procedures for Airport Radar Service Areas (ARSA) which will provide increased user benefits by more efficient sequencing of arrivals and departures. To date this program has been implemented at 47 terminal areas and is planned for 90 more over the next few years.

Mr. **Lehman**. To what extent do your current AAS cost/benefit estimates include benefits from these procedural changes?

[The information follows:]

The 1982 cost/benefit study did not incorporate the procedural changes, because these changes were subsequent to 1982.

AAS TECHNICAL RISKS

Mr. **Lehman**. Your January 1986 response to GAO's AAS report identified five significant AAS risks, but did not describe what specific problems could occur or what could happen if problems do occur. Have you completed an analysis yet of the specific technical risks, identifying what can go wrong and what the effect would be? If so, please provide this to the subcommittee. If not, how can you claim to have mitigated the technical risks?

[The information follows:]

FAA has not performed a formal analysis of the specific technical risks identified in the subject report. FAA does, as part of its normal technical review of AAS contractor progress and products, consider major program risks and potential problems that might result from these risks. Risk identification and risk management were specific topics addressed by both contractors at their System Design Reviews earlier this year. Reviews of contractor risk reduction programs are continuing at regular intervals with senior FAA and contractor management participation. FAA is also performing detailed risk assessment as part of its AAS acquisition phase planning.

SECTOR SUITE DEVELOPMENT AND TEST

Mr. **Lehman**. The AAS is a $2.5 billion procurement—which is large in anyone's book, in fact the largest procurement we ever had in the Department of Transportation. The GAO, of course, told us your AAS procurement strategy of buying the product before it is adequately tested is too risky. And they point to Defense Department procurement foul-ups to back up their case. It certainly seems logical to thoroughly test a product before you buy it—especially one that costs $2.5 to $3 billion. What overriding need is there to fast-track this procurement?

Mr. **Hunt**. FAA agrees that it is prudent to thoroughly test a product before you buy it. That is precisely the intent of the development and test of the sector suite console prototypes during the AAS DCP. The console will be subjected to extensive man-machine interface and ergonomic tests that will insure that this hardware, which represents approximately three times the investment of all ISSS and AAS software and commercial computer hardware, meets the FAA requirements.

During the DCP, FAA will receive detailed system designs with supporting analyses from both of its prime contractors. The decision to select a contractor after the planned DCP instead of later and full development, initial testing of ISSS and/or AAS allows the timely implementation of ISSS, and AAS. Any extension of DCP is directly translatable to a delay in ISSS and AAS implementation.

FAA believes that the high cost of extending the DCP and the associated postponement of benefits is not warranted by the amount of risk reduction that could be achieved by more testing before selection of a production contractor.

SECTOR SUITE EQUIPMENT

Mr. **Lehman**. Is it feasible to break off the initial sector suite equipment from the rest of the AAS contract and develop it separately? How much additional would this approach cost?

[The information follows:]

No, it is not feasible to break off the Initial Sector Suite System from the rest of the AAS contract. ISSS is an integral part of the AAS design. ISSS is a planned transition step to AAS and implements a part of the selected contractor's AAS design.

AAS TESTING

Mr. **Lehman**. The GAO says it would take only two additional years to conduct the additional AAS testing they think it required. I believe last year you said it would take 24 to 27 months, but this year you say it will take 40 months. Why couldn't this testing be accomplished within two years?

Mr. **Hunt**. The testing that GAO has proposed could be accomplished within 24 to 27 months. The testing proposed by GAO would entail full development and test of the ISSS and limited tests of subsets of the full AAS by both DCP prime contractors. FAA, in its recent response to GAO concerns, described the test approach that would include development and test of a full AAS system. Such an approach would take 40 months.

Mr. LEHMAN. Would a 24- to 40-month AAS delay to conduct the additional testing that GAO thinks is necessary have any adverse aviation safety effects?

Mr. HUNT. No, sir, not safety effects. It would postpone the benefits that are to accrue the aviation industry and in the productivity of the air traffic controllers.

Mr. FRISBIE. If I might add, Mr. Chairman, the AAS integrates with a number of other programs, and it would disrupt the connectivity of those programs as well.

Mr. LEHMAN. If you wanted to detail those problems for the record, it would be helpful.

Mr. FRISBIE. Yes, sir.

[The information follows:]

FAA is committed to Air Traffic Control safety. If the necessary improvements that will accrue from ISSS, AAS, AERA, and ACF's are delayed, economic impacts to the aviation industry and productivity impacts to FAA will result. This delay, however, would in no way derogate the level of safety that currently exists in the system today.

COMPLIANCE WITH OMB CIRCULAR A-109

Mr. LEHMAN. How does this DCP approach comply with OMB Circular A-109?

[The information follows:]

The FAA beleves that the AAS acquisition strategy is fully compliant with OMB Circular A-109. Indeed, during the initial stages of planning the replacement of the ATC automation systems, FAA worked very closely with F.H. Dietrich, the Associate Administrator for Major System Acquisition and Procurement Strategies in the OMB Office of Federal Procurement Policy. Discussions centered on the intent of OMB Circular A-109 and specifically on alternate acquisition strategies that FAA might adopt within the spirit of A-109. The strategy finally adopted by FAA emerged from these meetings with OMB.

According to F.H. Dietrich, A-109 is intended to provide the flexibility to tailor the acquisition process for individual programs. Acquisition strategies must accommodate the unique aspects of each program and should never become institutionalized by either "cookbook" procedures or "fill in the blank 'formats' " (F.H. Dietrich, "Let's Return to the Fundamentals of Acquisition Process," AIAA Aircraft Systems and Technology Meeting, Anaheim, CA, 1980). Dietrich further stated that "How far along in the acquisition process is economically beneficial to continue contractual competition may differ from program to program. It really becomes a decision of how much to invest to reduce risks to an acceptable level."

The discussion of risk, cost, and benefits in FAA's January 1986 response to GAO's 1985 AAS report and in Report DOT/FAA/AAP-85-1 clearly show that FAA has selected the most prudent acquisition strategy within these guidelines for applying the directives in OMB Circular A-109.

SINGLE CONTRACTOR VERSUS COMPETITION

Mr. LEHMAN. In addressing GAO's concerns about OMB A-109 implementation, you state in your January 1986 response that the fundamental implementing instructions for A-109 consistently call for the competitive development of critical hardware and software elements, in-depth testing of critical elements, and maintaining cost and technical competition as long as possible.

Later in that response, in explaining why your current acquisition strategy is beneficial and mitigates risk, you state, "In a one-contractor environment, the Government can become a more active partner to the contractor and provide design guidance in its area of expertise."

You further argue that this will lower extensibility and performance risk. This appears to indicate that competition is hurting the development effort and the sooner a single contractor enters the acquisition phase, the sooner risk can be lowered. This also seems to contradict the spirit of A-109 and what is widely believed about government procurement practice.

Would you please explain how moving into the acquisition phase at the end of the current DCP will lower risks by eliminating competition? Doesn't this directly contradict the idea that competition should be encouraged to reduce risks and lower overall costs?

[The information follows:]

FAA agrees that, in many circumstances, competition reduces risk. The FAA's Host DCP is an excellent case in point. So is the AAS DCP. One of the underlying requirements of a competitive environment is that the Government must maintain a "hands-off" posture with regard to the prime contractor in order to maintain absolute fairness. It is the Government's obligation to clarify requirements for the prime contractor and to tell him when requirements are not being met, but the Government cannot, in any way, steer the contractor or influence his product. The FAA's argument in the January 1986 report was that, in some instances, this "hands-off" posture hinders rather than aids product development.

In particular, some of the most critical work in the first and second year of the SPAP will revolve around the fine tuning of the man-machine-interface software. Traditionally, this has been a long and tedious effort for systems such as the ISSS and AAS that can only succeed through a cooperative effort between the users of the system (i.e., the air traffic controllers) and the designers/builders of the system. Attempting such a joint government/contractor activity in a competitive environment will be an extremely difficult, if not impossible task.

In selecting the completion of the Critical Design Review as the point at which a single contractor is to be selected, the FAA is attempting to balance the foregoing two factors, "hands-off" during competition, and the cooperation between FAA users and the development Prime contractor during acquisition phase.

AAS PROGRAM EXTENSION

Mr. LEHMAN. As we have discussed, we were told last year that full operational test and evaluation of the AASs designs at the end of the design competition phase would require extending the DCP contracts for two years. Subsequently, in a January 1986 letter, you told us that testing two full and complete designs was attractive from the point of view of program certainty, but would add 40 months to the AAS program.

Would you please explain for the record the difference in the estimates of two years and 40 months? What additional testing would be done, and what information would be provided in the longer time period.

[The information follows:]

Last year FAA told the Committee that, based on our 1981 analysis, full testing of the AAS would lead to an overall program delay of 1 to 2 years. More recently (January 1986), FAA stated, in its *FAA Response to GAO Interim Report IMTEC-85-11* (DOT/FAA/AAP-85-13), that full competitive testing of the AAS would delay the AAS implementation by 40 months. The earlier results were based on a comparison of alternative A-109 implementations in FAA's 1981 options analysis (published in *Response to Congressional Recommendations Regarding the FAA's En Route Air Traffic Control Computer System* (Report DOT/FAA/AAP-82-3). The 40 month number was derived directly from the AAS schedule. The major difference between the two is that the 1981 work did not consider the 18 months that will be required to build up the sector suite console production line *after* AAS acquisition award.

Mr. **Lehman**. Please also elaborate on your statement that additional testing would be attractive from the point of program certainty and yet would not provide additional confidence in the system.

[The information follows:]

The farther along a program is in its development and test effort, the better th understanding of the system and its eventual behavior and therefore the lower the overall programmatic risks. FAA's position is that the testing of a complete ISSS system, including Host, Local Communications Network, software, and sector suite consoles, provides little, if any, additional confidence that no changes will be required to the sector suite console production specification.

AAS TRANSITION

Mr. **Lehman**. In prior testimony in response to GAO's June 1985 report, you identified "transition" as a major risk in the AAS program. Providing for transition, without any detrimental impact on ATC service, is a major objective. Software has also been identified as a major risk. It seems that there is a strong probability of major delays in the program and transition risk still remains if operational problems with AAS software will not be revealed until acquisition phase testing is completed.

Please explain why testing of the important AAS software prior to the acquisition phase would not serve to alleviate both the software and transition risks.

[The information follows:]

Testing of the software, particularly the software in ISSS that implements the man-machine-interface (MMI, is extremely difficult in a competitive environment. The MMI software is precisely that part of the system that affects transition because it represents a whole new way for the controller to interact with the computer. Therefore, software and transition risk cannot be significantly reduced if the testing is done in a competitive environment.

AERA FUNCTIONS CONCEPT TESTING

Mr. **Lehman**. We understand that you have been doing research on AERA for over 10 years. However, we also understand that MITRE is back on the drawing board on the AERA 3 (i.e., back in concept development.) Please explain the statement made last year that you have done "extensive concept testing of all AERA functions, in our test beds, to provide us with assurance that the type of display the ISSS represents will satisfy AERA 3 requirements in light of MITRE's AERA 3 work." Please also explain when, where, and by whom the concept testing referred to last year was done.

[The information follows:]

The ISSS hardware will be used to support the operational AERA functions. The AAS Program provides for the necessary phased modifications/extentions of ISSS software for AERA 1, 2, and 3. Concept testing of AERA functions has been done at MITRE Corporation in McLean, Virginia, over the last several years. This work gives us confidence that the display elements and data input devices in the ISSS hardware will be adequate to support the AERA functions.

Mr. **Lehman**. Also please explain how the AAS extensibility analyses required from the AAS contractors ensure that AERA 3 requirements, which we understand are still not known, will be met in the future.

[The information follows:]

The traditional approach taken to ensure that future changes can be made to software has been to ask for general characteristics, such as modularity, and design processes, such as functional decomposition and top down design. Since AERA represents a significant enhancement of the current ATC system requirements, FAA decided that it was necessary to do more than just ask for general software characteristics. The FAA recognized that a fully validated specification for AERA 3 would not be available during the AAS DCP; therefore it was decided to postulate, on the basis of research experience, an AERA 3 system and develop a design for this system, with particular emphasis on those aspects of AERA 3 that might affect the interface with other AAS functions. This design was provided to the AAS contractors and they are being asked to show how their designs can be extended to accommodate this postulated AERA 3 system. FAA believes that this is a reasonable approach to testing (analytically) the ability of the AAS design to accommodate AERA 3 since there is a high degree of certainty that the data required to perform automated ATC (AERA 3) can be postulated without complete certainty about the algorithmic details of AERA 3. Therefore, the capability is being provided in the AAS design for AERA 1 and to accommodate extensibility to the postulated AERA 3.

Mr. LEHMAN. How do analytic studies alone show that a design can be extended to accommodate future functional and technological evolution? Are there any precedents for this?

[The information follows:]

FAA believes that, without a complete and validated specification in hand, the approach that FAA has selected is the best possible way to ensure that the AAS will be able to accommodate AERA 3. Since AERA 3 represents an evolutionary progression from AERA 1 and AERA 2, the inclusion of AERA 1 in the AAS design during DCP and the known requirement that the winning AAS contractor will have to design and build AERA 2 during the Acquisition Phase represent additional support to the extensibility of AAS.

FAA does not know of any precedents where such a formal requirement to demonstrate extensibility was used. It is of course good engineering practice to postulate, throughout a design, what the future changes might be so that the designer does not preclude any of the anticipated changes.

AAS INTERFACE REQUIREMENTS

Mr. LEHMAN. We understand that during the DCP prototype demonstration, the prototype sector suites and tower position consoles will have all devices in place and will look and perform like production sector suites and tower position consoles. You have stated that this environment will allow observers and participants to evaluate the sector suite and tower position console designs in a realistic environment. Would you explain more fully how you are going to create this "realistic environment"?

Mr. HUNT. The prime contractors are developing test drivers that will provide realistic man-machine interface scenarios which can be executed in the contractor's prototype laboratories. Actual task action sequences that are based on the AAS man-machine interface requirements will be demonstrated with these scenarios. For example, simulated traffic will appear on the situation display. Simulated flight plans will appear on other displays, and the controller will be able to exercise the different elements of the console to carry out realistic control tasks such as flight plan entries and handoffs.

Mr. LEHMAN. We understand that a MITRE study performed for your agency identified significant weaknesses in your AAS test efforts. That study pointed out the need to identify critical test issues early and to prepare a master test plan covering the full range of tests. Do you now have a formally approved list of critical AAS issues and when each will be tested? Have you completed a master test plan for the AAS? If so, please provide this to us. If not, how can you be certain that your test strategy is adequate?

Mr. HUNT. The FAA does not have a formally approved list of "critical AAS issues." Work has been in progress for a number of months to develop AAS acquisition phase test requirements and an acquisition phase test plan that covers all aspects of testing, ranging from local communication network tests, software tests, hardware tests, to operational tests, both before and after the ISSS and the AAS are installed at field facilities.

Appropriate aspects of these requirements and plans will be incorporated in the acquisition phase RFP. FAA did develop an AAS project test plan before the beginning of the AAS DCP. This will be provided for the record.

[The information follows:]

FAA does not have a formally approved list of critical AAS issues. Work has been in progress for a number of months to develop AAS AP test requirements and an AAS AP test plan that covers all aspects of testing ranging from Local Communications Network tests, software tests, hardware tests to operational tests both before and after the ISSS and AAS are installed at field facilities. Appropriate aspects of these requirements and plan will be incorporated in the AAS Acquisition Phase Request for Proposals and conducted in accordance with the resultant contract schedule. FAA did develop an AAS Project Test Plan before the beginning of the AAS DCP. This is being provided to you for the record.

[CLERK'S NOTE.—The material referred to was provided to the Committee.]

HOST CONTRACT MAINTENANCE

Mr. LEHMAN. To go back to the Host computer just for the record, would you provide for the record a detailed analysis of why you opted for Host contract maintenance instead of in-house, including your cost assumptions under both options?

[The information follows:]

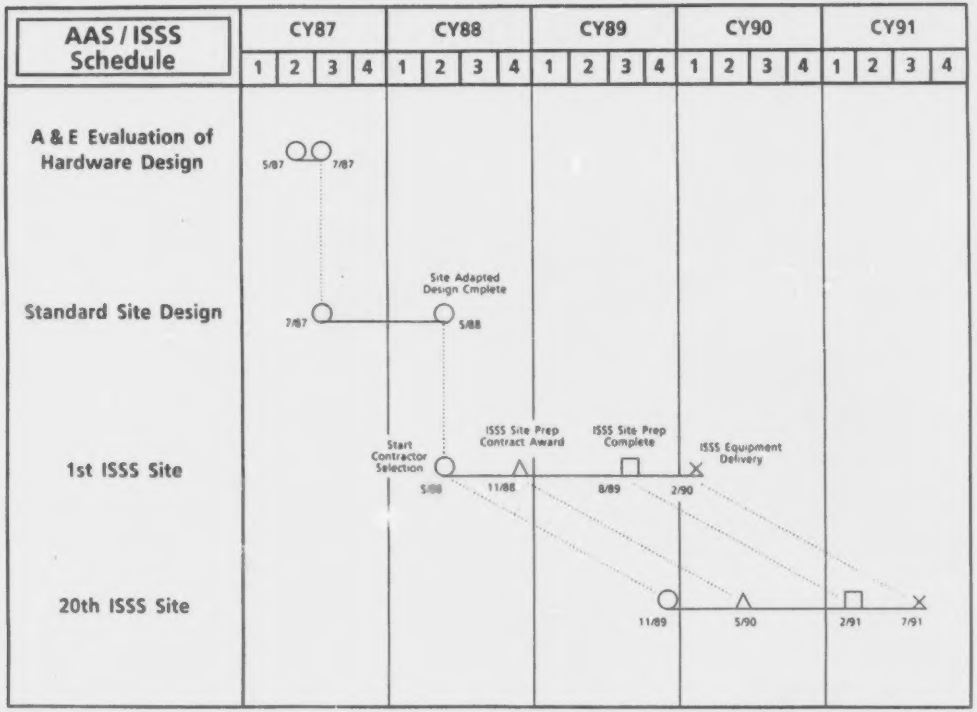
On major system acquisitions we sometimes elect to have the manufacturer provide maintenance for the first year or two the system is deployed. This allows FAA to become familiar and technically proficient with the equipment through a transition period. That is the strategy elected with the Host program. A staff recommendation is currently being considered by FAA management for IBM to maintain the Host for 2 years after installation. This is based on total life cycle considerations and also would allow FAA adequate time to arrange to provide for all logistic support (spare parts, training, documentation, etc.).

ISSS A&E AND DESIGN

Mr. LEHMAN. On page 24 you are requesting $10.266 million for engineering and design of field facilities for deployment of the initial sector suites. Please provide for the record a schedule for the ISSS A&E and design, site preparation, and installation at each facility.

[The information follows:]

A schedule for ISSS A&E and design, site preparation, and installation is provided for the record (attached).


AAS / ISSS Schedule
CY87
CY88
CY89
CY90
CY91
1
2
3
4
A & E Evaluation of Hardware Design
5/87
7/87
Standard Site Design
7/87
Site Adapted Design Cmplete
5/88
1st ISSS Site
Start Contractor Selection
5/88
ISSS Site Prep Contract Award
11/88
ISSS Site Prep Complete
8/89
ISSS Equipment Delivery
2/90
20th ISSS Site
11/89
5/90
2/91
7/91

Mr. **LEHMAN**. We understand that Mode S is having difficulties, that one year into the contract there are changing requirements, schedule slips, and cost increases. Would you please explain your problems in the Mode S program in each of these three areas?

Mr. **POZESKY**. Mr. Chairman, the Mode S has had a five-month delay in the critical design review. We hope to make up a portion of that in the next couple of months, and hopefully the final delivery should not be delayed more than two or three months from the current schedule. That deals with the schedule issue.

The cost issue is well within the scope of the contract. The contract for Mode S is called a fixed-price incentive-fee contract. It has an upper limit in it. There is a limit to how much the cost can grow. The cost has grown about 5 percent now, and we do not expect that the government's share of that cost will grow much further.

Basically, our bottom line, Mr. Chairman, is we are not anticipating major problems with this program. In fact, we are anticipating delivery, within bounds, of the Mode S system.

Mr. **LEHMAN**. To what extent can your Mode S problems be attributed to concurrent development and production?

Mr. **POZESKY**. Mr. Chairman, we don't believe that that is a problem at all. The Mode S contract is a production contract. There was over four years' worth of experimentation with the Mode S concept and some of the design algorithms before the production contract was let. We think the problem we are encountering is what we call the normal risk of a new build. It is simply the transition which takes place when a new design, that is the Westinghouse design, is introduced into this program.

Mr. **LEHMAN**. Are additional Mode S schedule and cost changes being considered? If so, what are they?

[The information follows:]

The following tasks are under consideration for addition to the Mode S Contract: (1) Incorporating FAA final definition of a few remaining interfaces between Mode S and other NAS projects; (2) Integration testing between the ASR-9 and Mode S made possible by a common contractor for the two projects. This was previously planned as an in-house FAA effort; (3) An unfunded option in the contract for Dedicated Repair Service. Also, some additional changes to Mode S may arise from our System Engineering and Integration effort, concerning the interrelationships between Mode S and other systems in the NAS. The schedule and cost impacts associated with these changes are in the process of being identified and not yet available, but the impacts are not expected to be significant.

Mr. **LEHMAN**. What are the implications of your Mode S problems for the AAS acquisition and the AAS acquisition strategy?

Mr. **POZESKY**. There are no direct implications. The AAS is being designed to be compatible with the existing system as well as the new system, and will transition to the Mode S environment as soon as Mode S is available. That will not affect the AAS schedule.

FLIGHT DATA INPUT/OUTPUT

Mr. **LEHMAN**. We also understand that you are having problems in implementing the flight data input/output device (FDIO). I believe the FDIO contract was let in fiscal year 1983 and savings were estimated to be in the range of $3 million annually. What is your latest implementation schedule? And in comparing this new schedule with that provided to the Subcommittee during the fiscal year 1985 hearing, please explain the specific reasons for schedule delays.

[The information follows:]

Our implementation schedule has two major phases: (1) equipment installation and, (2) cutover to operational use. Equipment installation began at the first operational site on March 31. The completion of the installation phase is currently scheduled for April 1987. Operational cutover to the FDIO system will be on a "site-by-site" basis with the first cutover occuring in August 1987 and the last cutover occuring in July 1988.

Specific reasons for the schedule delay are: unanticipated problems in the development of the system hardware and software; delays in the preparation of adequate test procedures; and the necessity of a Host Computer installation before FDIO can be used operationally.

FDIO CAPABILITIES

Mr. **LEHMAN**. Have you incorporated the software changes to the NAS operational software to provide for the new FDIO capabilities?

[The information follows:]

The required software changes have not been incorporated in the NAS operational software. Development of the necessary changes will be complete in June 1986. Implementation of these changes must wait until after the Host computer installation; since the remaining capacity of the existing 9020's will be utilized to implement the Mode C intruder function.

FDIO TESTING

Mr. **LEHMAN**. Explain how testing of FDIO was performed. Also please provide the results of these tests and explain how problems uncovered during testing will be resolved prior to operational use.

[The information follows:]

Testing of the FDIO system consists of four parts; factory design verification tests; FAA Technical Center system acceptance tests; factory acceptance tests (each system); and on site acceptance tests (each system).

The design verification tests and the FAA Technical Center system acceptance tests have been completed. The testing showed problems with the printer's alignment of the flight strip paper forms and insufficient interface buffer size.

These identified problems will be resolved by the contractor providing retrofit hardware assemblies for the FDIO systems. These retrofit assemblies will be installed prior to the operational use of FDIO.

Mr. **LEHMAN**. If centers receive FDIO capability prior to replacement by the Host, will they not lose FDIO capability when the Host is installed? If so, why?

[The information follows:]

Current plans will not provide the capability to operate FDIO until after the HOST Computer Systems have been installed and operational software has been converted.

Mr. **LEHMAN**. What is the estimated cost of having IBM convert the NAS operational software release incorporating FDIO capability?

[The information follows:]

The estimated cost for converting the NAS operational software release into a Host software release is $23 million. Included in this estimate are the costs for incorporating FDIO, Mode C Intruder and other less significant software modifications. These modifications are planned to be incorporated in one Host software release. There will not be a separate Host software release that just incorporates the FDIO capability.

SAVINGS FROM FIDO

Mr. LEHMAN. When will FAA realize the $3 million in annual benefits made possible by the FDIOs?

[The information follows:]

Savings will begin when the FIDO is operational at the first site in late 1987. In 1988 the annual benefits should exceed $3 million.

CENTRAL WEATHER PROCESSORS

Mr. LEHMAN. On page 25 you are requesting $20.6 million for the development of software for central weather processors [CWP]. I believe the CWP system has been criticized by the Inspector General as overlapping with the National Weather Service's system that they plan for the 1990s. Both systems are being developed simultaneously, and the Inspector General apparently believes we could save $80 million by using the NWS system. Would the NWS system meet your requirements?

Mr. POZESKY. It does not appear, Mr. Chairman, that the NWS system will meet our requirements. We have a coordinated program. We are intensifying that coordination between us and the NWS. There is an exchange at the technical levels on the details of the algorithm. The fundamental approaches appear to be different between the FAA and the NWS. We will stay coordinated and integrated, but we do not think that just a simple translation of their design to the FAA will meet our needs.

Mr. LEHMAN. You coordinate NEXRAD, but I guess this is a little different.

Mr. POZESKY. It is along the same line. We don't want to duplicate efforts. We want to share the common technology, but that is different than saying we just want to buy their system for our application.

COMMENTS ON IG REPORT

Mr. LEHMAN. Please provide for the record a detailed response to the findings and recommendations contained in the I.G.'s draft report on the CWP, dated November 26, 1985.

[The information follows:]

We are attaching our January 13, 1986, response to the Inspector General's draft report on Problems Identified in the Development of FAA's Central Weather Processor. However, we want to point out that the Inspector General's draft report is now undergoing significant revision and the recommendations will not be the same as in the November 26, 1985 draft.

JAN 13 1986

INFORMATION: Office of Inspector General (OIG)
Draft Report on Problems Identified in the
Development of FAA's Central Weather Processor

Administrator

Inspector General

As requested by your November 26 memorandum, I have the following comments on the subject report:

The report states that: (1) system requirements for the Central Weather Processor (CWP) System have not been adequately defined and justified for further expenditure of funds for continuing systems development; (2) there are opportunities to use available alternative weather systems more effectively that will meet many of the requirements already identified by the Federal Aviation Administration (FAA) for CWP and provide many weather related safety and monetary benefits to the FAA and the flying public; and (3) in the process of developing its own specialized weather surveillance and prediction capabilities, the FAA has overlapped the National Weather Service's (NWS) mission by initiating the development of a major weather system and unnecessarily duplicating services or functions which could be more economically provided by the NWS as common user capabilities.

My comments on the report's findings and recommendations are set forth below and in the attachment which addresses the specific issues raised by the auditors.

We are coordinating closely with the NWS to ensure that there is no unnecessary duplication of effort and that each organization capitalizes on the development efforts of the other. In late October, the FAA and the NWS asked the Office of the Federal Coordinator for Meteorological Services and Supporting Research to establish and chair a Joint Council on Information Processing Systems that would be chartered to provide oversight and guidance in the development of automated weather information systems. This joint council will be made up of senior managers from the NWS, the FAA, and the Department of Defense. It is my intent that the FAA fully support the council to ensure maximum commonality in the next generation weather information processing and distribution systems.

With regard to the issue of requirements, it is well known that the FAA has already initiated action to reexamine the overall CWP requirements. I have established a working group, including NWS representation, to review the CWP functions as currently planned and to evaluate and revalidate the system requirements. This work should be completed by February and should stabilize the requirements base. I believe this to be a normal part of our overall development process.

I foresee that the Center Weather Service Units in the 1990's will utilize functions of the NWS's Advanced Weather Interactive Processing System for the 1990's (AWIPS-90) particularly in the meteorologists' work stations, supplemented by the additional capabilities required to support aviation requirements. In the meantime, the FAA will continue work on the prototype CWP in order to ensure timely development of the FAA's unique requirements for radar data handling, distribution, and the appropriate interfaces with the National Airspace System. Since the proposed NWS system is only in the concept stage, it cannot be used as the sole basis for software or interface design.

Overriding all of this is the fact that I may have to be making significant adjustments in the CWP Program to account for recent FY 1986 and FY 1987 fiscal constraints. Much of our program timing will require adjustment since I anticipate having to slow down the CWP Program due to budget constraints. These adjustments in our program will take full account of your recommendations.

I appreciate the opportunity to comment on your report and request that a copy of these comments be included in any final report that you issue.

(Signed) Don Engen

Donald D. Engen

Attachment

BEST COPY AVAILABLE

FAA SUMMARY RESPONSE

TO

INSPECTOR GENERAL REPORT

ON

CENTRAL WEATHER PROCESSOR PROGRAM

DECEMBER 18, 1985

IG Comment (Cover letter)

- The potential exists for providing immediate weather-related safety and monetary benefits to the FAA and the flying public.

FAA Comment

- We are aware of the Denver Air Route Traffic Control Center's (ARTCC) experience with the Program for Regional Observing and Forecasting Services (PROFS) work station and its access to the many weather research systems in the Colorado area. These research systems provide such benefits as continuous real-time upper wind speed and direction and surface wind, temperature dew point, and pressure readings from a network of sites around the Denver airport. This type of information will not be available at other airports and, therefore, the operational benefits ascribed to the PROFS work stations cannot be directly determined using the Denver ARTCC as a model.

- Also, we have been informed that the National Oceanic and Atmospheric Administration (NOAA) does not plan to implement PROFS as an operational system. PROFS planned use is limited to a flexible R&D test bed which is used, and will continue to be used, to define the Advanced Weather Interactive Processing System of the 1990's (AWIPS-90) and Central Weather Processor (CWP) Systems.

IG Comment (Cover letter)

- Potential exists for avoiding millions of dollars of unnecessary system development costs.

FAA Comment

- The FAA and the National Weather Service (NWS) are cooperating very closely on the development of weather related capability. We are establishing a council to ensure:

  - Minimize duplication of effort
  - Commonality of functions
  - Minimum tailoring to specific user requirements

- The suggestion that the Centralized Storm Information System (CSIS) or PROFS can provide the functions planned for the CWP indicates that there is considerable misunderstanding of the capabilities, limitations, and status of these systems.

  - The NWS does not view CSIS as a fully operational system - it is a one-of-a-kind system based on two University of Wisconsin Man-computer Interactive Data Access Systems (McIDAS) which are proprietary to the University.

  - The NWS installed the CSIS in an operational environment for evaluation by the National Severe Storms Forecast Center (NSSFC).

- The NWS objectives were to evaluate the system capability in an operational environment and modify the system to improve its usefulness. The results from this evaluation will be incorporated in the AWIPS-90 design.

- The CSIS is not a radar oriented system; it is a satellite-based system which NOAA is enhancing by overlaying data from single radars.

- It should be noted that the CSIS is being used to support the air transportation system today. We do not agree that additional benefits, beyond today's contribution, can be attributed to the CSIS. Information generated by the CSIS and the NSSFC is passed to the National Aviation Weather Advisory Unit for their application in developing Significant Meteorological Information (SIGMET), convective SIGMET's, and severe weather warnings that are transmitted throughout the system. The NWS does not foresee immediate applications beyond this for CSIS.

- PROFS is a capable and flexible research and development facility which is being used to define the AWIPS-90 and CWP System characteristics.

- The concept of PROFS POWER was conceived by the Environmental Research Laboratories (ERL) as an educational and research system, whereby PROFS products could be used by the research community. If the current PROFS capability were to be implemented operationally, it would be necessary to develop and install such a system at an operational facility, such as the National Meteorological Center. ERL estimates that development of such a system and implementation of facilities would take 2 1/2 years and cost $20 million. This cost does not include communications, logistics, training, or the cost of the central computer facility. It must also be recognized that this system is strictly an interim system and would still need to be replaced.

o If the assumption is that the planned AWIPS-90 can replicate the CWP, then there are unidentified development costs which must be calculated. The report estimates that 80 percent of the CWP function will be the processing and distribution of Next Generation Weather Radar (NEXRAD) products. The AWIPS-90 has not been fully defined, and the AWIPS-90 capability to provide full radar service to the National Airspace System (NAS) must be costed (including development costs).

IG Comment (Page 2)

- o Interfaces not defined and costs not included.

FAA Comment

- o A draft Interface Requirements Document (IRD) for the Advanced Automation System (AAS)-CWP interface has been developed--both program offices have concurred.
- o The IRD will be forwarded to the two AAS contractors in the near future.
- o The IRD's from the competing NEXRAD contractors are available and being analyzed.
- o While some uncertainty will exist until a final contractor is selected, the major points about the interface (product types, sizes, information rate, etc.) are known.
- o The CWP program [illegible] has worked closely with the NEXRAD Joint Special Projects Office (JSPO) staff in defining products to be derived from NEXRAD. Functional and principal user processor interfaces are defined.
- o The $75-$80 million cost estimate for the CWP prototype development does include costs associated with the AAS and NEXRAD interfaces.

IG Comment (Page 7)

- o AWIPS-90 with minor enhancements would be able to satisfy FAA weather information systems requirements.

FAA Comment

- o AWIPS-90 and CWP are both derivative systems based on the technology developed on the PROFS Program. The AWIPS-90 is in the concept stage and will be tailored to the requirements of the future NWS warning and forecast offices and their geographical areas. The CWP is tailored to the information dissemination requirements of the ARTCC and the geographical area covered by the center. Where the two systems perform similar functions, the processing used will be the same. To assure that the information processing requirements of the Department of Defense (DOD), FAA, and NWS are met in the most cost-effective way, the Federal Coordinator for Meteorological Services is establishing a Triagency Council on Information Processing Systems. This council is similar to the Joint Automated Weather Observing Program (JAWOP) and NEXRAD Councils. This council will provide the mechanism for assuring full coordination in the development of information systems needed by all users of weather information.

IG Comment (Page 7)

- AWIPS-90 will have the capability to mosaic up to 20 Doppler radars.

FAA Comment

- The NWS has advised us that the mosaicking issue has not been settled. The 13 River Forecast Centers require synthesized precipitation data over a river basin area. This will not involve any Doppler data and has a very reduced resolution. In other words, there will be very simple mosaicking of reflectivity data on a relatively large scale.

IG Comment (Page 9)

- The FAA should phase out of the weather development business
  - While NOAA has responsibility for providing aviation weather services under the FA Act, FAA has the responsibility for disseminating the weather information and providing the systems needed to accomplish this.
  - FAA should request the Department of Commerce (DOC) to develop FAA's aviation weather information system.

FAA Comment

- This is what the CWP is all about, tailoring weather products to meet aviation's needs. The Bureau of the Budget Circular A-62 states that the DOC will, to the maximum extent practicable and permitted by law, provide those basic meteorological services and supporting research needed to meet the requirements of the general public or the common requirements of other agencies. User agencies will arrange for specialized meteorological services and supporting research when their mission requirements cannot be effectively accommodated through the basic services and supporting research. Before supporting specialized meteorological services and research, the user agency should obtain the views of the DOC. The DOC will, to the extent consistent with effective and economical use of resources, conduct the specialized services that support the mission requirements of user agencies.

  Over the past 10 years, the response from the DOC has been essentially that they cannot do everything aviation needs. The Center Weather Service Unit (CWSU) meteorologist is an example in point. The FAA had to provide positions as well as funding to staff these facilities.

IG Comment (Page 2)

- Majority of CWP requirements are undefined.

FAA Comment

- The FAA has a requirements statement based on inputs from the NWS and Air Traffic (AAT). The Systems Engineering Service is currently completing a requirements analysis. The results of this analysis will be coordinated with the NWS and AAT, and the requirements statement will be validated by February 1986.

IG Comment (Page 3)

- Jet Propulsion Laboratory (JPL) has indicated that CWP requirements are vague.

- JPL has been requested to help define CWP requirements.

FAA Comment

- JPL has been developing a candidate system design in parallel with the Systems Engineering Service activity to finalize the requirements. JPL is also participating in the design and tradeoff studies that support finalizing the requirements.

IG Comment (Page 4)

- Requirement for mosaicking up to 40 Doppler radars is keyed to the Central Flow Control Facility. A controller only needs a mosaic of three or four radars per sector.

FAA Comment

- Our requirement is keyed to covering a complete ARTCC area of responsibility. While an ARTCC sector controller only needs two or three NEXRAD's mosaicked, there are between 20 and 50 sectors in an ARTCC. The Central Flow Control requirement was just a logical follow-on. However, radar mosaic requirements are currently being reviewed and will be revised as necessary. It is probable that a reduced resolution mosaic will be available at Central Flow Control.

IG Comment (Page 2)

- Eighty percent of processing is for radar mosaicking. Recommend doing weather radar processing and mosaicking in the AAS.

FAA Comment

- Radar mosaicking represents a significant data load. The requirements review currently ongoing will result in reducing the load to the extent possible. Since there are 14 weather products being received from the

NEXRAD Systems and the data rates are quite different from the air traffic control radars, mosaicking of the weather data is best done in the CWP. The CWP will provide a single/small number of processed severe weather products to the AAS for display to controllers.

IG Comment (Page 5)

- FAA should install PROFS now.

FAA Comment

- As noted earlier, PROFS is an experimental facility. Implementation of PROFS would require establishment of an operational facility within the NWS, probably at the National Meteorological Center (NMC). This would place achievement of the limited operational capability available from PROFS in the same time period as CWP and AWIPS-90. Hence, this approach is not recommended.

IG Comment (Page 7)

- FAA should install a modified AWIPS later.

FAA Comment

- In designing the CWP System, it is our intent to achieve the highest level of commonality possible with AWIPS-90. Much of the software will be functionally identical. As noted earlier, the AWIPS-90 will be tailored to the warning and forecast office requirements in geographical areas, and the FAA system will be tailored to meet aviation meteorologist, controller, and pilot information needs.

IG Comment (Page 7)

- NOAA plans to begin a series of transition experiments to test a PROFS derivative work station and processor--first in a single station set-up; then in a three station set-up; and finally a regional set-up. FAA does not plan to participate.

FAA Comment

- The NOAA is conducting operational tests to determine the best way of integrating the PROFS data into the overall weather data base to provide the meteorological display and analysis tools to the meteorologists. The three operational tests - Denver AWIPS-90 Risk/Requirements Evaluation (DARE), TRIPOD, and Modernization and Restructuring Evaluation and Demonstration (MARED) - add successive levels of improvements to PROFS building step by step to the full AWIPS capability. The FAA will be monitoring the NWS tests. In addition, the FAA is using weather products from the PROFS System in the Denver-Longmont ARTCC. As the meteorologists at that facility gain experience with current products, this information will be used to define further PROFS derivative products for use at CWSU's.

IG Comment (Page 4)

- o FAA questioning stringent requirements.

FAA Comment

- o The FAA is presently completing a detailed analysis of the CWP requirements. This process, we believe, will reduce the requirements from the "nice to have" to the "fully required" category.

IG Comment (Page 4)

- o FAA questioning entire program.

FAA Comment

- o The FAA is not questioning the entire program. As part of the development cycle, the FAA routinely examines alternative solutions to the problem. In addition, the FAA is examining the feasibility and benefit of implementing interim system capabilities that fall between the Radar Remote Weather Display System (RRWDS) currently in use and the full CWP/AWIPS-90 capability. If some interim capability is required during the transition period between RRWDS and full NEXRAD, then the acquisition of limited capability commercial systems may prove a cost-effective approach.

IG Comment (Page 10)

- o FAA should initiate a joint program with NOAA.
    - Determine how aviation weather requirements can be satisfied by NOAA's present and future weather systems.
    - Include as many aviation functions as possible in AWIPS-90. Develop special FAA unique software.
    - Participate with NOAA in experiments and research to assure aviation weather requirements are included.
    - Review necessity of FAA developing a separate CWP.
    - FAA should discontinue separate development effort.
    - Produce immediate benefits and save $100 million-$150 million annually.

FAA Comment

- The FAA has taken steps to establish, under the auspices of the Office of the Federal Coordinator, a joint council on weather information processing that should meet the intent of your recommendation.

- As an integral part of the joint council activity, FAA will closely coordinate with NWS to determine the extent to which the future NWS system will support aviation weather dissemination requirements. FAA, through the joint council, will work directly with NWS and DOD to determine the most cost-effective methods of meeting aviation's weather information needs.

- The FAA will encourage and work for the incorporation into AWIPS-90 a maximum number of aviation weather functions and avoid duplicative systems. In parallel, FAA is prepared to develop the unique software and specialized interfaces to support the NAS weather information requirements fully.

- The FAA will continue to monitor and evaluate the results of the proposed NOAA experiments (DARE, TRIPOD and MARED). To the extent that those experiments generate operationally useful aviation weather services and products, we are prepared to take full advantage of any immediate improvements in services or products.

- The FAA will continue work on the prototype CWP in order to ensure timely development of the FAA's unique requirements for radar data handling, distribution, and the appropriate interfaces with the NAS. Since the proposed AWIPS-90 is only in the concept stage, it cannot be used as the basis for software or interface design.

CWP REQUEST

Mr. **Lehman**. Please also explain if this $20.6 million request is for unanticipated cost growth in the software competition, or was for a long planned funding component of this project. If it represents cost growth, please explain why.

[The information follows:]

The request does not represent cost growth. The overall cost of the CWP program has not changed from last year.

It does represent a realignment of funding with regard to the transition from the design to the prototype phase. Funding adjustments were made in the R&D and F&E accounts to accommodate this change.

TRAFFIC MANAGEMENT SYSTEM

Mr. **Lehman**. On page 27 you are requesting $27.8 million to upgrade the traffic management system. Please provide for the record a detailed breakdown of this request along with a timetable showing major procurement milestones.

[The information follows:]

The requested funding will be allocated as follows:

1. Replace Central Flow Control Computer and rehost associated software	$19.1M
2. Procure color weather radar display for the Traffic Management Units (TMU's)	1.3M
3. Procure departure spacing hardware	.8M
4. Procure metering lists hardware	.4M
5. Develop software for new TMS functions	4.3M
6. Program management and technical support	1.9M
Total	27.8M

The major procurement milestones are as follows:

Program element	Solicitation	Contract award	Delivery
Develop software for required new TMS functions	11/86	[1]4/87	11/89
Procure metering lists hardware	4/87	9/87	5/88
Procure color weather radar displays for the TMU's	4/87	10/87	11/88
Procure departure spacing hardware	4/87	9/87	11/88
Replace central flow control computer and rehost software	4/87	11/87	11/89

[1] Modifications to existing contracts.

ASR REPLACEMENT PROGRAM

Mr. **Lehman**. On page 31 you are requesting $87.935 million to continue your airport surveillance radar replacement program. This would be the fifth year of funding for this program. How is it proceeding? Is it on schedule?

Mr. **Pozesky**. Yes, Mr. Chairman, this program is proceeding quite well. The first design system is undergoing tests at the contractor's plant right now. Our present plans call for delivery to the test site in August 1986, with the first operational site scheduled for August 1987. We do not anticipate any schedule changes from this target.

Mr. **Lehman**. Please provide for the record a summary of the ASR equipment contracts awarded for this program, explaining the cost, number of units, name and location of contractor, and terms of such contract.

[The information follows:]

A $366.5M firm fixed price multiyear contract was awarded to Westinghouse Electric Corporation of Lithicum, Maryland, on September 30, 1983, for 101 ASR-9 radars.

ASR RADAR LOCATIONS

Mr. **Lehman**. Why was the ASR replacement program singled out as one of those that could be taken off a "full funding" basis?

Mr. **Pozesky**. We simply tried to minimize the number of projects that could be taken off full funding. It was convenient for us to use the ASR-9 for that purpose, and there is no particular underlying reason for that.

Mr. **Lehman**. Please update for the record the ASR delivery data found on pages 599 through 605 of last year's hearing record. Please also explain any schedule slippages that have occurred since last year.

[The information follows:]

The following is the latest ASR-9 delivery schedule. The ASR-9 contract was awarded to Westinghouse Corporation on September 30, 1983, with delivery of system number 1 to a test site in April 1986. The present schedule indicates delivery of system number 1 to the test site in August 1986, a slip of 4 months. The slip is due to unavailable electronic components.

ASR-9 DELIVERY SCHEDULE BY YEAR

SYSTEM NO.	DELIVERY (YEAR)	EXISTING SYSTEM	LOCATION
1	86	ASR-7	HUNTSVILLE
2	87	ASR-4	FAA ACADEMY
3	87	N/A	TECHNICAL CENTER
4	87	NEW	NEWBURGH-STEWERT
5	87	ASR-8	SALT LAKE CITY
6	87	NEW	PASCO
7	87	NEW	MOSES LAKE
8	87	NEW	RIO GRANDE VALLEY
9	87	ASR-5	WICHITA
10	87	ASR-4	CHANTILLY-DULLES
11	87	ASR-4	TULSA
12	87	ASR-7	LOS ANGELES ASR-7
13	87	ASR-4	CHARLESTON
14	87	ASR-5	PROVIDENCE Q-PT
15	87	ASR-7	RALEIGH
16	87	ASR-8	SYRACUSE
17	87	ASR-6	NORFOLK
18	87	ASR-4	RICHMOND
19	87	ASR-4	ROCHESTER
20	87	ASR-4	TOLEDO
21	87	ASR-8	AUSTIN
22	87	ASR-5	WASHINGTON-ANDREWS AFB
23	87	ASR-4	CHARLOTTE
24	87	ASR-8	MCCLELLAND
25	87	ASR-6	BIRMINGHAM
26	87	ASR-5	OMAHA-OFFUTT
27	87	ASR-4	FT LAUDERDALE
29	87	ASR-7	CHICAGO-OHARE
30	87	ASR-7	CHICAGO-TENLEY
31	87	ASR-7	NEW YORK - JFK
32	87	ASR-7	NEWARK

SYSTEM NO.	DELIVERY (YEAR)	EXISTING SYSTEM	LOCATION
33	87	ASR-7	ATLANTA
34	87	ASR-7	WASHINGTON-NATIONAL
35	88	ASR-7	OAKLAND
36	88	ASR-8	DALLAS-ADDISON NOTE 1
37	88	ASR-7	DALLAS-COLLEYVILLE
38	88	ASR-8	PITTSBURGH
39	88	ASR-7	BOSTON
40	88	ASR-8	MIAMI
41	88	ASR-4	LOS ANGELES ASR-4
42	88	ASR-7	PHILADELPHIA
43	88	ASR-8	DETROIT
44	88	ASR-8	ST LOUIS
45	88	ASR-8	DENVER
46	88	ASR-8	CLEVELAND
47	88	ASR-8	SEATTLE
48	88	ASR-8	MINNEAPOLIS
49	88	ASR-8	PHOENIX
50	88	ASR-8	HOUSTON-INTERNATIONAL
51	88	ASR-8	BALTIMORE
52	88	ASR-8	KANSAS CITY
53	88	ASR-8	INDIANAPOLIS
54	88	ASR-6	SARASOTA
55	88	ASR-8	COLUMBUS
56	88	ASR-8	NEW ORLEANS
57	88	ASR-8	SAN ANTONIO
58	88	ASR-8	LONG BEACH
59	88	ASR-8	BUFFALO
60	88	ASR-8	COVINGTON
61	88	ASR-8	HOUSTON-HOBBY
62	88	ASR-8	TAMPA
28	88	ASR-4	MADISON
63	88	ASR-8	MILWAUKEE
64	88	ASR-8	DAYTON
65	88	ASR-8	PORTLAND
66	88	ASR-8	LAS VEGAS
67	88	ASR-8	ASHEVILLE
68	88	ASR-5	ONTARIO
69	88	ASR-8	LOUISVILLE
70	88	ASR-8	WINDSOR LOCKS
71	89	ASR-8	JACKSONVILLE
72	89	NEW	HILLSBORO
73	89	ASR-8	OKC WILL ROGERS
74	89	ASR-8	WHITE PLAINS
75	89	ASR-8	ALBUQUERQUE
76	89	ASR-8	ORLANDO
77	89	ASR-4	GREENSBORO
78	89	ASR-6	KNOXVILLE
79	89	ASR-6	BURBANK
80	89	ASR-4	HARRISBURG
81	89	ASR-4	DES MOINES
82	89	ASR-5	MONTGOMERY-MAXWEL

SYSTEM NO.	DELIVERY (YEAR)	EXISTING SYSTEM	LOCATION
83	89	ASR-4	ALBANY
84	89	ASR-5	EL PASO-BIGGS
85	89	ASR-5	LUBBOCK-REESE
86	89	ASR-5	SHREVEPORT-BARKSD
87	89	ASR-5	TUCSON-DAVIS MONT
88	89	ASR-4	GRAND RAPIDS
89	89	ASR-4	FT WAYNE
90	89	ASR-8	ISLIP
91	89	ASR-5	DAYTONA BEACH
92	89	ASR-5	SACRAMENTO-BEALE
93	89	ASR-4	ATLANTIC CITY
94	89	ASR-7	ASHEVILLE
95	89	ASR-7	CEDAR RAPIDS
96	89	ASR-8	MEMPHIS
97	89	ASR-8	HONOLULU
98	89	ASR-5	SAN JOSE-MOFFETT
99	89	ASR-5	SAN DIEGO-MIRAMAR
100	89	ASR-5	SANTA ANA-EL TORO
101	87	MAINT	FAA-DEPOT

ASR-9 PROGRAM LEAPFROG SYSTEMS

LEAPFROG SITE	NEW RADAR	FROM (DONOR)	DELIVERY (YEAR)
FAA DEPOT 3	ASR-7	HUNTSVILLE	87
GREAT FALLS	ASR-8	SALT LAKE CITY	87
FAA DEPOT 1	ASR-7	CHICAGO-OHARE	88
FAA DEPOT 2	ASR-7	ASHEVILLE	88
EUGENE	ASR-7	LOS ANGELES ASR-7	88
FAA ACADEMY	ASR-7	RALEIGH	88
PORTLAND	ASR-8	SYRACUSE	88
LITTLE ROCK	ASR-8	AUSTIN	88
BAKERSFIELD	ASR-8	SACRAMENTO-MCCLELLAND	88
FAA DEPOT	ASR-7	CHICAGO OHARE R7	88
MANSFIELD	ASR-8	WHITE PLAINS	88
TERRE HAUTE	ASR-7	CHICAGO-TENLEY	88
CLARKSBURG	ASR-7	NEW YORK - JFK	88
READING	ASR-7	NEWARK	88
GULFPORT	ASR-7	ATLANTA ASR-7	88
HUNTINGTON	ASR-7	WASHINGTON-NATIONAL	88
STOCKTON	ASR-7	OAKLAND	88
WACO	ASR-7	DALLAS-COLLEYVILLE	88
ELMIRA	ASR-8	PITTSBURGH	88
MANCHESTER	ASR-7	BOSTON	88
ST THOMAS	ASR-8	MIAMI	88
BINGHAMTON	ASR-7	PHILADELPHIA	88
CHAMPAIGN	ASR-8	DETROIT	88
LAFAYETTE	ASR-8	MILWAUKEE	89
COL SPRINGS-PETER	ASR-8	DENVER	89
EVANSVILLE	ASR-8	CLEVELAND	89
SPOKANE	ASR-8	SEATTLE	89

LEAPFROG SITE	NEW RADAR	FROM (DONOR)	DELIVERY (YEAR)
FRESNO	ASR-8	PHOENIX	89
AMARILLO	ASR-8	HOUSTON-INTERNATIONAL	89
ROME-GRIFFIS	ASR-8	BALTIMORE	89
SPRINGFIELD	ASR-8	KANSAS CITY	89
ROCKFORD	ASR-8	INDIANAPOLIS	89
KALAMAZOO	ASR-8	COLUMBUS	89
LAKE CHARLES	ASR-8	SAN ANTONIO	89
SANTA BARBARA	ASR-8	LONG BEACH	89
BANGOR	ASR-8	BUFFALO	89
WILMINGTON	ASR-8	COVINGTON	89
ABILENE-DYESS	ASR-8	HOUSTON-HOBBY	89
AUGUSTA	ASR-8	TAMPA	89
DULUTH	ASR-8	MINNEAPOLIS	89
SAGINAW	ASR-8	DAYTON	89
TACOMA-MCCHORD	ASR-8	PORTLAND	89
PALM SPRINGS	ASR-8	LAS VEGAS	89
GREENVILLE	ASR-8	NASHVILLE	89
FAYETTEVILLE	ASR-8	LOUISVILLE	89
FALMOUTH-OTIS	ASR-8	WINDSOR LOCKS	89
LONGVIEW	ASR-8	JACKSONVILLE	89
FT SMITH	ASR-8	OKLAHOMA WILL ROGERS	89
WATERLOO	ASR-8	ST LOUIS	89
CASPER	ASR-8	ALBUQUERQUE	89
TALLAHASSEE	ASR-8	ORLANDO	89
MUSKEGON	ASR-8	ISLIP	89
OKC DEPOT2	ASR-7	ASHEVILLE	90
MONROE	ASR-8	NEW ORLEANS - MSY	90
PUEBLO	ASR-7	CEDAR RAPIDS R7	90
MACON-WAR ROB	ASR-8	MEMPHIS	90
LIHUE	ASR-8	HONOLULU	90

ASR-9 SITES NOT MEETING ESTABLISHMENT CRITERIA

Mr. **Lehman**. Also, please provide for the record a listing of all proposed ASR-9 sites that do not meet your minimum establishment criteria. Please show what the rating is in each instance, the cost of procuring and installing the radar, and explain why you propose installation.

[The information follows:]

Based on May 1983 "Investment Criteria for Airport Surveillance Radar (ASR/ATCRBS/ARTS)," FAA-APO-83-5, Newburgh, New York, and Hillsboro, Oregon, did not meet the minimum establishment criteria. Cost of installation is $7,574,300 and $9,171,100. These installations were congressionally mandated.

ASR RELOCATIONS

Mr. **Lehman**. Please also provide for the record a listing of the cost and locations of your request to relocate ASRs or raise antennas as shown on page 32.

[The information follows:]

The ASR relocations and costs are:

Longview, Texas	$1,503,000
Monterey, California	1,328,900
San Diego-Miramar California	1,078,500
Oklahoma City, Oklahoma	362,100
Nashville, Tennessee	314,000

The ASR location requiring the radar antenna be raised is Saginaw, Michigan, at a cost of $145,800.

NEW YORK TRACON

Mr. **Lehman**. On page 34 you are requesting an additional $15 million for improvements at the New York TRACON facility. We appropriated what we thought were sufficient funds for this project last year. Why do you require nearly 50 percent more than originally requested for this project?

Mr. **Pozesky**. Mr. Chairman, unfortunately, the contractors' bids came in higher than we anticipated. We did underestimate the cost of this program last year. We have only a single contractor, and part of the cost increase is probably due to the loss of competition. And as I say, the fundamental reason is we did underestimate the cost of this program last year.

Mr. **Lehman**. You plan to install a modified ARTS IIIA system in the New York TRACON. We understand this will be a one-of-a-kind ARTS system. Why is it necessary to install a unique system in New York? And will it be compatible with the AAS?

Mr. **Pozesky**. Mr. Chairman, it will be compatible with the AAS but New York is a unique environment. It is the only system which has reached saturation. We cannot further expand the technical capability of that ARTS III system as we can in other places. It is up to its design limit, so it has to be replaced.

Mr. **Lehman**. I believe your decision to award this ARTS III E contract is based on a "paper proposal." What risks did you take in awarding the contract without some demonstration that the system proposed will meet your future needs?

[The information follows:]

The ARTS IIIE contract was awarded based on the best response to a specification that was thoroughly coordinated within FAA and industry. That specification reflects the projected system requirements for New York TRACON until replacement by the AAS in 1998.

Risks in meeting these future needs have been minimized by maximum use of current system/off the shelf hardware and making minimal software changes. A two phase implementation plan further minimizes risk by meeting future requirements in two incremental steps. The first step provides increased capacity through the installation of new intelligent displays with internal display processing. The second step provides further increased capacity through the addition of new processors to off-load track processing.

ARTS III A

Mr. **Lehman**. We understand that you have yet to fully implement software capability at all ARTS III A sites that makes full use of the hardware installed four years ago. Is this accurate? If so, why?

[The information follows:]

Your understanding of the situation is correct. We have implemented the software in 35 of the 64 ARTS IIIA sites. The implementation of the software has been slow due to unforeseen software problems encountered at dual radar sites and at a few of the larger single radar sites. We will have a correction to those problems out to the field sites in the fall of this year.

Mr. **Lehman**. Please provide the implementation schedule for the ARTS III E and show how difficulties in developing ARTS III A software will not be repeated.

[The information follows:]

The implementation schedule for the ARTS IIIE is as follows:

April 1987—Deliver new displays, local area network, modified software to New York.

September 1988—Deliver new processors and modified software to New York.

December 1988—System Operational.

Difficulties in developing the ARTS IIIE software will be minimized by the introduction of minimal new software and the use of improved software management techniques. Extensive independent verification and validation will ensure satisfying system requirements while maintaining traceability of all software activity.

CONFLICT ALERT COVERAGE

Mr. **Lehman**. We understand that you had considerable difficulty in implementing conflict alert at the New York TRACON with three radars. Based on plans to expand the number of radars to five in the ARTS III E, what is the risk that full conflict alert coverage will not be attained with the new system until a much later time in the future? When will it be fully operational?

[The information follows:]

Conflict alert enhancements will have already been implemented in the existing four radar ARTS IIIA system at New York prior to the ARTS IIIE. These enhancements are primarily software and as such are directly transferable to the ARTS IIIE. No major problems with conflict alert are anticipated for a five radar system. Full coverage/operation of a five radar conflict alert function is expected at the time of the fifth radar integration into the system.

Mr. **Lehman**. I believe your October 1984 study on New York TRACON system expansion acknowledges that software changes can reduce the number of nuisance alerts in the conflict alert function. However, it also states that major improvement requires the use of MODE S. Based on this, how will conflict alert in the New York area be effective without the use of MODE S?

Mr. Pozesky. The conflict alert is effective. It will have a higher false alarm alert, but it will alert the controller to the potential violation of separation minimum. We believe that the improved surveillance accuracy of the Mode S system will enable us to reduce that alert rate, but it is quite a useful function even with today's aircraft system as we see nationally. That system is in use nationally and performs a useful role.

Mr. Lehman. I believe your plans are not to replace ARTS III E with ACF until 1998. Will the rest of the ARTS III A systems be replaced in that same time period? If so, will capacity or physical age be a problem?

[The information follows:]

It is planned that ACF's will replace all ARTS IIIA's by 1998. A contract to be awarded in April of this year will provide data to fully assess the ability of the ARTS IIIA to satisfy capacity, maintainability, supportability and reliability requirements until their replacement by ACF's

Mr. Lehman. Is there a study completed or planned on extending the life of the ARTS II A's until the 1990s?

[The information follows:]

A contract that will provide data for the projection of the useful life of the ARTS IIIA System is planned for award at the end of April. This data will include information on supportability, maintainability and reliability of ARTS IIIA hardware components as well as system capacity. Any specific plan to extend the life of the ARTS IIIA's will be based on the results of the analysis of this data and the ACF implementation schedule.

ARTS III A CONTINGENCY PLAN

Mr. Lehman. Is there a contingency plan for the ARTS III A's in case some locations start running out of computer capacity? If so, provide the plan. If not, why not?

[The information follows:]

The New York TRACON ARTS IIIA is the only ARTS IIIA that has been expanded to the maximum system design limit. All other ARTS IIIA's can be expanded with additional hardware. Two additional memory units will have been shipped to all ARTS IIIA systems except New York by the end of April. A contract to be awarded in late April will provide data on both existing ARTS IIIA system capacity and projected ARTS IIIA ability to satisfy future capacity requirements. This data will be on an individual site basis to determine proper allocation of hardware resources.

ARTS III E CONTRACT AWARD

Mr. Lehman. Why was the estimated cost of the ARTS III E, provided to Congress last year, $12 million lower than the contract recently awarded to Sperry? And why was this contract awarded before sufficient funds were appropriated?

[The information follows:]

The urgency of the ARTS IIIE program required the submission of a budget item based on initial system requirements. The finalized system requirements resulted in an additional cost that was further escalated by the contractor costs associated with absorbing indemnification and higher labor rates needed to meet the compressed contract schedule.

Because of the urgency and complexity in meeting a contract award date to ensure satisfying the critical June 1987 capacity requirements of the New York TRACON, the ARTS IIIE procurement was specified in two distinct phases. Phase 1 replaces displays while phase 2 expands processing capability. Phase I satisfies the critical June 1987 requirements and was obligated in FY 1986 within available funding. Phase 2 will be obligated in 1987 per this budget request.

Mr. LEHMAN. How will you ensure that the lessons learned in developing new displays, distributed processors, and local communications networking for the ARTS III E are provided in a timely manner to the AAS program?

[The information follows:]

Counterparts to the ARTS IIIE and AAS program offices have been and will continue to be involved in the technical specification evaluation, acceptance and integration aspects of the ARTS IIIE. All information relating to lessons learned in the ARTS IIIE will be provided to the AAS program office.

TOWER REPLACEMENT LOCATIONS

Mr. LEHMAN. On page 36 you are requesting $23.153 million to replace towers at Monroe, Louisiana; Buffalo, New York; Albuquerque, New Mexico; and Norfolk, Virginia. Please provide for the record a breakdown of these projects in detail similar to that provided on pages 613 through 616 of last year's hearing record.

[The information follows:]

TOWER REPLACEMENT LOCATIONS

Location	Cost	Total Airport Operations	Age of Tower	Phase I Discontinuance
Monroe, LA	$3,223,000	92,079	25	1.83
Albuquerque, NM	6,657,800	227,802	29	8.56
Buffalo, NY	5,894,900	149,825	45	2.74
Norfolk, VA	7,377,700	182,439	35	2.77

NOTE: $1,900,000 will be required in a future budget for in house costs associated with this program.

The following is a site by site description of the justification to replace the Control Towers facilities listed in the above chart.

Monroe, LA

The functional tower structure is 24 years old, inadequate in height and size, with leaks in operational and administrative quarters. The tower was constructed to house a nonradar operation and establishment of radar created an overcrowded condition in the tower cab which has only 230 sq. ft. of space. Space is not available for a supervisor's work area in tower cab and there is no room to expand the radar operating positions, or to relocate the radar function. The existing tower height is not high enough to provide the controller with an unobstructed aerial view of all runways, taxiways and other movement areas. The breakroom, used by both Air Traffic and Airway Facilities personnel, is only 9 by 13 feet. Training and recorder playback room is located in a small equipment room which is totally inadequate in size, and is functionally deficient. Overall, the facility is far undersized for the radar approach control operation and the structure leaks in almost every work area and reasonable repairs have not corrected the problem.

Albuquerque, NM

The Albuquerque tower, constructed in 1957, is a level III radar approach control facility housed in a refurbished military tower. The tower cab is a structure that was added to the top of the old tower cab to obtain additional height and space. Access to the tower is cumbersome in that a modified ship's ladder type stairwav provides access to the old cab; passage to the junction level is via a small, steep, narrow circular stairway; and then a normal stairway to the top cab. The elevator is too small and obsolete. The base building is constructed of cinder block and has been expanded three times. Functional layout of operational support space is poor and requires seven different air conditioners which still do not cool all required areas, and are not available when the facility is on engine generator. The TRACON is too small, and is adversely affected by noise from the equipment room. The physical condition of many work areas are deteriorated beyond reasonable repair and rearrangement of operational support space is not feasible.

Buffalo, NY

The existing facility structure is over 45 years old with the exception of the tower cab (31 years old). Insufficient space does not adequately support current and future operational, administrative and equipment requiremonts. Expansion modification of the present facility is not feasible, and the operational and support space, inadequate in size, is poorly arranged and cannot be improved or expanded. The entire facility is in a deteriorated condition. Its overall appearance is deplorable, and major renovation is impractical. The poor condition of the facility and the lack of sufficient operational space makes replacement of the facility imperative.

Norfolk, VA

The replacement of the 38 year old tower and TRACON operational and administrative facilities is required to eliminate operation and administrative problems, and to improve controller working conditions. The existing tower height of 50 feet, does not provide the controller with an unobstructed aerial view of runways, taxiways and other aircraft movement areas. Engine noises and fumes from aircraft at the commuter airline ramp, adjacent to the tower, adversely impacts tower cab operation and is environmentaly unacceptable. Outside lights from the adjacent stadium and parking lots create a glare on the tower cab windows which adversely affects the controllers vision. The stairwell leading to the tower cab, and restroom supporting the tower cab is not heated in winter or cooled in summer. The TRACON which provides IFR service to four major airports and 17 other satellite airports is located in the old terminal building adjacent to the engine generator that is noisy, smelly and vibrates at a level which has cracked surrounding walls. The TRACON and automation support space is crowded and cannot be expanded to accommodate existing and future operational requirements. Overall, the operational and administrative offices are in poor condition, beyond reasonable repair and inadequate in size.

FLIGHT SERVICE MODERNIZATION

Mr. **Lehman**. On page 42 you are requesting $44.8 million for flight service station modernization. Would you bring us up to date on the status of this program? How many facilities have been consolidated, how many new facilities have been opened, and how many facilities do you plan to consolidate in the remainder of fiscal year 1986 and in fiscal year 1987?

Mr. **Pozesky**. Mr. Chairman, let me give you some statistics. To date, 17 automated flight service systems have been commissioned with leased service A equipment. The first Model I system was commissioned in February of this year. The three automated flight service stations operating with that family are Bridgeport, Dayton and Cleveland.

We expect to commission 12 AFSS's during fiscal year 1986. Eight of them will be with Model I, and four with leased service A. We will be consolidating about 12 flight service stations this year. That number is still under review, and it is somewhat driven by the budget constraints. The cost of PCS moves will drive that number to some degree, and we will be examining that as our budget becomes clearer this year.

Mr. **Lehman**. We used to be hassled quite a bit by our colleagues about these flight service stations. Is there anything else that I should know about that program?

Mr. **Pozesky**. Mr. Chairman, we have proceeded with the selection of the locations for the automated flight service station. I think 60 of the 61 have been announced. There is one that is undergoing litigation. My general perception is that the intensity of the controversy has died down a little bit. You still get some of that on an individual site-by-site basis. There is some controversy with regard to our strategy for Model 2, which we will be talking about later, but it seems like the controversy this year is a little less than it was at this time last year.

NEW AFSS LOCATIONS

Mr. **Lehman**. Please provide for the record a breakdown of the locations consolidated to date, the location of new AFSS facilities opened to date, and staffing and F&E cost data for each facility. Please categorize costs by automation, acquisition, consolidation, and relocation costs.

[The information follows:]

09-1

FSS Locations Consolidated as of 4/24/86	F&E Cost of Consolidation
Lone Rock, WI	$ 70,000
Toledo, WA	31,000
Cotula, TX	27,000
Yuma, AZ	46,000
Key West, FL	154,000
Boston, MA	67,000
Windsor Locks, CT	67,000
Guam	0
Lafayette, IN	67,000
Milwaukee, WI	93,000
Kansas City, MO	69,000
Alma, GA	122,000
Las Vegas, NV	303,000
Phoenix, AZ	33,000
New Orleans, LA	54,000
Des Moines, IA	35,000
Oklahoma City, OK	1/
Houston, TX	2/

1/ Included in relocation cost ($413,000) for McAlester, OK .
2/ Included in relocation cost ($409,000) for Conroe, TX .

AFSS's Opened as of April 24, 1986			F&E COST		
Location	Staffing	Automation	Acquisition	Consolidation	Relocation
*Bridgeport, CT	79	$1,639,000	$ 0	$134,000	$ 660,000
*Cleveland, OH	38	1,596,000	0	0	833,000
*Dayton, OH	25	1,593,000	0	0	317,000
*Leesburg, VA	78	1,600,000	130,000	0	663,000
*Macon, GA	25	1,608,000	0	122,000	584,000
Denver, CO	54	1,614,000	1,325,000	0	404,000
Prescott, AZ	45	1,601,000	0	179,000	520,000
Reno, NV	36	1,571,000	0	403,000	919,000
Green Bay, WI	43	1,612,000	0	163,000	321,000
Terre Haute, IN	32	1,612,000	0	67,000	321,000
Columbia, MO	61	1,620,000	0	69,000	600,000
Conroe, TX	59	1,626,000	7,000	30,000	408,000
Deridder, LA	57	1,592,000	0	301,000	673,000
McAlister, OK	44	1,592,000	0	30,000	413,000
Ft. Dodge, IA	29	1,597,000	0	35,000	597,000
Hawthorne, CA	71	1,601,000	86,000	0	450,000
Nashville, TN	23	1,601,000	1,790,000	161,000	592,000

*Model 1 equipment commissioned as of April 24,1986.

FSS CONSOLIDATIONS

Mr. **Lehman**. Please also provide for the record a location, staffing, and cost breakdown of the FSS consolidations you plan to implement in the remainder of fiscal year 1986 and in fiscal year 1987.

[The information follows:]

310-1

			F&E COST		
Location	Staffing	Automation	Acquisition	Consolidation	Relocation
AFSS's to be Opened During remainder of FY 1986					
Williamsport, PA	33	$1,600,000	0	$212,000	$ 449,000
Columbus, NE	32	1,603,000	0	49,000	580,000
Princeton, MN	47	1,591,000	0	48,000	553,000
Kankakee, IL	65	1,615,000	0	48,000	440,000
St. Petersburg, FL	43	1,591,000	0	0	539,000
Riverside CA	53	1,620,000	88,000	0	717,000
St. Louis, MO	53	1,608,000	0	0	558,000
Wichita, KS	38	1,596,000	0	0	517,000
1/ Altoona, PA	26	1,608,000	0	200,000	566,000
1/ Islip, NY	50	1,612,000	160,000	0	472,000
1/ Milleville, NJ	28	1,604,000	118,000	115,000	428,000
1/ Cedar City, UT	27	1,267,000 2/	0	100,000	899,000
AFSS's to be Opened in FY 1987					
Lansing, MI	53	$1,603,000	0	$ 84,000	$ 327,000
Maimi, FL	67	1,634,000	2,047,000	154,000	335,000
San Diego, CA	39	1,592,000	0	0	850,000
Ft. Worth, TX	49	1,614,000	0	0	494,000
Anderson, SC	49	1,617,000	0	0	648,000
Jackson, TN	32	1,591,000	0	147,000	648,000
McMinnville, OR	49	1,615,000	0	0	443,000
Seattle, WA	62	1,593,000	900,000	31,000	716,000
Grand Forks, ND	23	1,612,000	0	100,000	303,000
1/ Louisville, KY	23	1,267,000 2/	0	100,000	648,000
1/ Anniston, AL	29	1,282,000 2/	0	200,000	648,000
1/ Bangor, ME	28	1,127,000 2/	0	200,000	900,000
1/ Burlington, VT	41	1,126,000 2/	0	100,000	900,000
1/ San Angelo, TX	49	1,283,000 2/	0	100,000	895,000
1/ Huron, SD	21	1,114,000 2/	0	100,000	900,000

Note: AFSS staffing is the current on-board positibns as of March 31, 1986, and includes the staffing at those FSS's that will be consolidated. FY 1987 staffing allocations have not yet been made.

1/ AFSSs to be opended with Leased Service A equipment.

2/ Estimated Model II costs

310-2

[illegible]

Chadron, NE	100,000
Lovelock, NV	100,000
Albany, NY	100,000
Glens Falls, NY	100,000
Jamestown, ND	100,000
Columbus, OH	100,000
Youngstown, OH	100,000
Zanesville, OH	100,000
Gage, OK	100,000
Hobart, OK	100,000
Baker, OR	100,000
Portland, OR	2/
Greer, SC	3/
Florence, SC	100,000
N. Myrthe Beach, SC	100,000
Watertown, SD	100,000
Bristol, TN	100,000
Crossville, TN	100,000
Memphis, TN	147,000
College Station, TX	100,000
Childress, TX	100,000
Galveston, TX	100,000
Mineral Wells, TX	100,000
Palacios, TX	100,000
San Antonio, TX	100,000
Danville, VA	100,000
Roanoke, VA	100,000
Barre/Montpelier, VT	100,000
Dallesport, WA	100,000
Ephrata, WA	100,000
Hoquiam, WA	100,000
LaCrosse, WI	100,000
Wausau, WI	100,000

Note The number of FSS that will be consolidated in FY 1987 will depend on the amount of funds that will be available in FY 1987 for relocating personnel.

1/ Birmingham consolidation costs included in relocation costs for Anniston, AL., AFSS.

2/ Portland consolidation costs included in relocation costs for McMinnville, OR., AFSS.

3/ Greer consolidation costs included in relocation costs for Anniston, AL., AFSS.

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Locations To Be Consolidated during remainder of FY 1986	F&E Cost of Consolidation
Johnstown, PA	$ 100,000
Phillipsburg, PA	100,000
Salt Lake City, UT	100,000
Harrisburg, PA	100,000
Omaha, NE	100,000
Chicago, IL	48,000
Minneapolis, MN	48,000
Lake Charles, LA	110,000
Lafayette, LA	107,000
Douglas, AZ	100,000
Sidney, NE	49,000
Ely, NV	100,000
Locations Planned To Be Consolidated in FY 1987	
Birmingham, AL	1/
Blythe, Ca	100,000
Daggett, Ca	100,000
Lancaster, CA	100,000
Needles, CA	100,000
Paso Robles, CA	100,000
Akron, CO	100,000
La Junta, CO	100,000
Melbourne, FL	100,000
Albany, GA	100,000
Brunswick, GA	100,000
Savannah, GA	100,000
Valdosta, GA	100,000
Ft. Wayne, IN	100,000
Indianapolis, IN	100,000
Burlington, IA	100,000
Mason City, IA	100,000
Ottumwa, IA	100,000
Dodge City, KS	100,000
Emporia, KS	100,000
Augusta, ME	100,000
Houlton, ME	100,000
Salisbury, MD	100,000
Detroit, MI	48,000
Houghton, MI	100,000
Cape Girardeau, MO	100,000
Vichy, MO	100,000

BRIDGEPORT MODEL I

Mr. **Lehman**. We have been told that you experiencd a total breakdown of your Model I equipment at Bridgeport on February 9 in which the entire computer system was out for six hours. Would you explain what happened? And at what locations have you installed Model I equipment and how is it working in your estimation?

Mr. **Pozesky**. We had a problem with Bridgeport. I will point out that that happened before the actual commissioning of the Bridgeport facility. It was in the shakedown testing period, so we were running the old system as well as the new system simultaneously. The problem was a software problem that was caused by a power outage. It has not reoccurred at Bridgeport or at any other Model I site, and we think we have made the fixes necessary to prevent a reoccurrence.

There are about 18 or 20 sites that are projected to get Model I this fiscal year. We are on the way with this program, and we should see, hopefully, a rather smooth transition from here on in.

Mr. **Lehman**. This was the first one you installed, wasn't it?

Mr. **Pozesky**. Yes, sir.

Mr. **Lehman**. Have you received any complaints from the users or from your FSS employees about Model I?

Mr. **Pozesky**. No. There have been occasions where specialists getting used to the new features have had some problems, but in terms of the performance of the system, we have been getting rather good comments. We generally try to hold to the equal or better services as we implement this problem. We believe that this transition will improve with time. The first system is always tough, and as you go down the second or third it gets easier.

Mr. **Lehman**. I believe you commissioned your Model I on February 13. How could you commission this equipment when you experienced a major breakdown four days earlier?

Mr. **Pozesky**. We isolated the problem that was traceable to a commercial power failure in the vicinity. Once that was identified and corrected, it hasn't reoccurred. The long-term plan is to put engine generators in at these automated flight service stations, so even when we do have a power failure that breakdown in service won't reoccur.

STATUS OF MODEL II

Mr. **Lehman**. What is the status of the Model II development and is any part of your $44.8 million request for Model II procurement?

Mr. **Pozesky**. Yes. We expect about $7 million of that request is for the Model II software development.

Mr. **Lehman**. Please provide for the record a detailed breakdown of (1) your $6.6 million request for FSS automation, (2) your $3.6 million request to acquire FSS facilities (including locations), and (3) your $34.6 million request for FSS consolidation/relocation on page 42.

[The information follows:]

(1) The $6.6 million request for automation will be used for partial funding for the development of Model 2 software.

(2) The $3.6 million request for AFSS facilities will be used for site preparation work, purchase of consoles, engine generators and other ancillary equipment at the following locations: Rancho Murieta, CA; Jonesboro, AR; Albuquerque, NM; and Casper, WY.

(3) The $34.6 million request for consolidation will be used as follows: purchase 20 ICSS systems $26.0M; consolidate 41 FSS $5.9M; and lease ICSS systems $2.7M.

EQUAL OR BETTER SERVICE

Mr. LEHMAN. Please provide for the record a detailed explanation as to why you believe your consolidated flight service stations provide "equal or better" service. Please cite any appropriate statistical information you may have in your response.

[The information follows:]

By the end of Fiscal Year 1985 we commissioned 16 new facilities using the services and personnel from 20 existing flight service stations. With the exception of a new communications switching system, and in some locations a new graphic distribution system, the initial equipment used to commission these facilities was the same as that used in the previous facilities. Although the specialists at the new facilities may have been required to expand their area of knowledge and responsibility, the majority were performing the same types of service to essentially the same group of pilots as in the former facility.

The new communications switching system is computer driven and controls the telephone and the air/ground communications circuits at the new facilities. Although we have experienced some initial problems with this equipment, they were to be expected and are typical of those associated with the transition to new equipment of this size and sophistication. We continue to monitor the operation of the new facilities. Problems have been identified, and are being resolved in timely manner. To date, the problems encountered have been symptomatic of the transition process rather than an overall system deficiency.

The transition problems notwithstanding, we have introduced a number of new capabilities for the pilot; e.g., direct access to transcribed weather briefings and the filing of flight plans via the new communications switching system. Although the statistical data is still being developed, early reports from a number of facility managers indicate that the new facilities are providing a greater number of services.

We have installed Model 1 automation equipment in 21 automated flight service stations (AFSS) including the 16 commissioned with other initial equipment. We have commissioned Model 1 at five of those facilities and eight more will become operational within the next 60 days. All 37 facilities will be operational in fiscal year 1987. Model 1 enhances the specialist capabilities for weather briefings and the filing of flight plans.

As is the case with the communications system, we are experiencing some problems with Model 1; however, none are of the magnitude that would cause us to remove this equipment from service. Based on specialist comments they also prefer to use Model 1 rather than the back-up units.

Given that we are basically using the same equipment, or in some cases enhanced systems, and the fact that specialists providing the services at new facilities are essentially the same personnel, we maintain that the service provided at the new location is at least equal to that previously available from the FSS.

Moreover, in view of the new types of services available, the progressive number of AFSS's using Model 1 equipment, and the early indications of increased activity, we are assured, even at this initial transition stage, that we are in fact providing a better quality of service at the new facilities.

LORAN-C

Mr. LEHMAN. On page 46 you are requesting $43 million to install Loran C signal coverage over the mid-continent states. Last year we were told that a major benefit of Loran C would be in reducing landing minimums Yet information was supplied for the record indicating that no Loran receivers are good enough to be used for this purpose. How much will the modifications to Loran C receivers cost to allow reduced landing minimums? And, if only a few pilots buy such modifications, is Loran C really worth the cost?

[The information follows:]

One LORAN C receiver model (ONI-7000) has been approved for nonprecision approaches under instrument conditions. A second LORAN C receiver (ARNAV R-40) has successful passed laboratory tests required before inflight approval. Two more companies (Teledyne Systems and II Morrow Corporation) are working with the FAA to make their receivers suitable for approach use. The first LORAN C IFR approach was made November 4, 1985, at Bedford, Massachusetts.

Cost of LORAN C receiver modifications to permit reduced minimums vary with manufacturers—almost all changes are to the software of existing receivers—no increases in cost to consumers have been evident in those receivers already modified.

An extensive "Benefits Analysis" of the planned LORAN C extension in the mid-continent showed an expected aircraft equippage rate with LORAN C increasing from 18,000 in 1984 to approximately 150,000 in a 1990 population of 220,000 aircraft—the benefit-to-cost ratio was greater than one.

LORAN-C COST BENEFIT

Mr. LEHMAN. Please provide for the record a summary of your Loran C cost benefit study.

[The information follows:]

The benefit/cost analysis addresses the implementation of LORAN-C nonprecision approaches in CONUS (including extension of LORAN-C coverage) to the mid-continent area of the United States. The FAA F&E costs incurred will be for aviation LORAN-C monitors, mid-continent LORAN-C transmitters and development of new LORAN-C nonprecision instrument approaches. FAA O&M costs incurred include maintenance of aviation LORAN-C monitors, maintenance of mid-continent LORAN-C transmitters and flight checks (maintenance) of LORAN-C nonprecision approaches. There were no direct FAA benefits estimated.

National airspace users will incur a cost for the purchase and maintance of avionics equipment necessary for use of the LORAN-C system. Users will, however, reap benefits in the form of direct routing and nonprecision approaches at airports currently without standard instrument approach procedures.

The expected scenario, for LORAN-C operation in the national airspace system has benefit/cost ratio of 2.22. Incremental benefit/cost ratio of the mid-continent LORAN-C transmitters, under this scenario, is 1.05, which assumes the FAA will implement LORAN-C nonprecison approaches in 1986 at the rate of 200 per year; the LORAN-C will be on air in the mid-continent in 1989; that the Global Positioning System (GPS) will provide civil aviation service in 1995.

This benefit/cost assessment is conservative in that it assumes benefits for air taxi and general aviation users only, exclusive of benefits to air carriers or military users. The assessment also excludes nonprecision approach benefits at airports that already have standard instrument approach procedures (or plan one) and assumes there will be no new purchases of LORAN-C avionics after GPS is approved for civil aviation use in the post 1994 timeframe.

REPLACEMENT TOWERS

Mr. LEHMAN. On page 50 you are requesting $3.653 million to replace existing approach light towers. Please provide for the record a breakdown of the cost and location for these replacement towers.

[The information follows:]

Location and Runway	*Cost*
Anchorage, Alaska—06L	$664,400
Nome, Alaska—27	492,600
Topeka, Kansas—13	382,800
Akron-Canton, Ohio—01	454,700
Dayton, Ohio—18	357,200
Mansfield, Ohio—29L	414,700
Sioux Falls, South Dakota—03	470,100
Norfolk, Virginia—23	416,500

AWOS

Mr. **Lehman**. On page 51 you are requesting $20.054 million to establish additional automated weather observing systems. Last year $27.225 million was provided for this activity. When will these systems begin to be installed, and is this procurement on track?

Mr. **Pozesky**. The first system is scheduled for April 1988, with the operational readiness demonstration scheduled for June 1988. That is the so-called pilot program, the 8A minority business program that was a portion of this effort. There is a competitive contract scheduled for a multiyear procurement. The contract is expected in July 1987, with the first implementation in July 1989. We have had technical difficulties with the 8A minority business portion of this program. The contractor has not proceeded as scheduled, and we have had to go in and help him produce that element, which, as you probably well know, can become part of the 8A minority business program. We have had to help that contractor produce. We hope we are back on track with that 8A portion of the program.

Mr. **Lehman**. Where is that contractor?

Mr. **Pozesky**. The contractor is a company called Amex in California. They have graduated from the minority business program since, but they were a minority business when this contract was awarded.

LOW LEVEL WIND SHEAR ALERT SYSTEM

Mr. **Lehman**. On page 56 you are requesting $6.15 million to provide low-level wind shear alert system improvements at 110 locations. How well will these enhanced wind shear systems work compared to the modified NEXRAD terminal doppler radar systems?

Mr. **Pozesky**. The two instruments really do provide different information. The low-level wind shear is directed at detecting wind shear that exists at low altitude, and is there instantaneously. The doppler radar is going to look for advance warning of wind shear those kinds of atmospheric phenomena that let you predict wind shear. We think they will be complementary, and we think we will need both in the ultimate system.

Mr. **Lehman**. It is not an overlap?

Mr. **Pozesky**. No, we don't believe so.

Mr. **Lehman**. Please provide for the record a site-by-site breakdown of your wind shear alert improvement request showing location, cost, and installation data.

[The information follows:]

The fiscal year 1987 improvements for the Low Level Wind Shear Alert System (LLWAS) include a new display estimated at $43,000 per site installed and new data recording capability estimated at $12,000 per site installed. Installation will start in July 1988 and will be completed by October 1990. The locations for these improvements are the 110 established LLWAS sites contained in the following list.

DAY 3
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Revised

LLWAS BY SEQUENCE NUMBER

No.	LOCATION	ST	No.	LOCATION	ST
1.	OKLAHOMA CITY	OK	56.	LAS VEGAS	NV
2.	ATLANTA	GA	57.	NORFOLK	VA
3.	TAMPA	FL	58.	SAN JUAN	PR
4.	HOUSTON (INTERCONT)	TX	59.	CHICAGO (O'HARE)	IL
5.	J.F.KENNEDY	NY	60.	RICHMOND	VA
6.	DENVER	CO	61.	SYRACUSE	NY
7.	BOSTON	MA	62.	GRAND RAPIDS	MI
8.	MIAMI	FL	63.	MADISON	WI
9.	DALLAS/FT.WORTH	TX	64.	PEORIA	IL
10.	WASHINGTON NATIONAL	DC	65.	WINDSOR LOCKS	CT
11.	PITTSBURGH (INT)	PA	66.	SIOUX FALLS	SD
12.	FT. LAUDERDALE (INT)	FL	67.	BRISTOL	TN
13.	NEW ORLEANS	LA	68.	CHARLESTON	SC
14.	LAGUARDIA	NY	69.	CHATTANOOGA	TN
15.	ORLANDO (INT)	FL	70.	COLUMBIA	SC
16.	KANSAS CITY (INT)	MO	71.	DAYTONA BEACH	FL
17.	MEMPHIS (INT)	TN	72.	GREENSBORO	NC
18.	DETROIT (METRO)	MI	73.	HUNTSVILLE	AL
19.	ST. LOUIS (INT)	MO	74.	TALLAHASSEE	FL
20.	PHILADELPHIA (INT)	PA	75.	BATON ROUGE	LA
21.	CLEVELAND (HOPKINS)	OH	76.	DALLAS (LOVE FIELD)	TX
22.	INDIANAPOLIS (INT)	IN	77.	SHREVEPORT	LA
23.	MINNEAPOLIS (INT)	MN	78.	SAN FRANCISCO	CA
24.	NEWARK (INT)	NJ	79.	TUCSON	AZ
25.	CHARLOTTE	NC	80.	CEDAR RAPIDS	IA
26.	JACKSONVILLE	FL	81.	LINCOLN	NE
27.	CINCINNATI	OH	82.	CHARLESTON	WV
28.	LOUISVILLE	KY	83.	GREEN BAY	WI
29.	WEST PALM BEACH	FL	84.	MOLINE	IL
30.	SALT LAKE CITY	UT	85.	TOLEDO	OH
31.	BIRMINGHAM	AL	86.	HONOLULU (OAHU)	HI
32.	MILWAUKEE	WI	87.	BILLINGS	MT
33.	DAYTON	OH	88.	COLORADO SPRINGS	CO
34.	COLUMBUS	OH	89.	ASHEVILLE	NC
35.	ALBUQUERQUE	NM	90.	AUGUSTA	GA
36.	TULSA	OK	91.	COLUMBUS	GA
37.	PHOENIX	AZ	92.	FT. MYERS	FL
38.	BALTIMORE	MD	93.	GREER	SC
39.	DULLES	VA	94.	LEXINGTON	KY
40.	SARASOTA	FL	95.	MONTGOMERY	AL
41.	NASHVILLE	TN	96.	PENSACOLA	FL
42.	DES MOINES	IA	97.	AUSTIN	TX
43.	OMAHA	NE	98.	EL PASO	TX
44.	RALEIGH-DURHAM	NC	99.	FORT SMITH	AR
45.	BUFFALO	NY	100.	SIOUX CITY	IA
46.	MOBILE	AL	101.	SPRINGFIELD	MO
47.	LOS ANGELES	CA	102.	ALBANY	NY
48.	LITTLE ROCK	AR	103.	LANSING	MI
49.	SAN ANTONIO	TX	104.	ROCHESTER	MN
50.	HOUSTON (HOBBY)	TX	105.	SPRINGFIELD (CAPITOL)	IL
51.	ROCHESTER	NY	106.	FAYETTEVILLE	NC
52.	KNOXVILLE	TN	107.	SAVANNAH	GA
53.	WICHITA	KS	108 .	LUBBOCK	TX
54.	JACKSON	MS	109.	MIDLAND	TX
55.	ROANOKE	VA	110.	MONROE	LA

PURCHASE OF LAND

Mr. LEHMAN. Please provide for the record a breakdown of your $3.18 million request to purchase land or easements similar to what appears on pages 641 and 642 of last year's hearing record.

[The information follows:]

The $3,179,900 is broken down by location as follows:

State	Number of sites	Amount
California	4	$485,000
Florida	2	75,800
Georgia	1	31,300
Illinois	1	75,000
Indiana	2	200,000
Kansas	6	150,000
Kentucky	2	181,000
Maryland	1	100,000
Minnesota	1	200,000
Mississippi	1	15,000
Missouri	8	200,000
Montana	1	60,000
Nebraska	3	75,000
Nevada	1	125,000
New Hampshire	1	10,000
New York	1	75,000
North Carolina	1	180,000
Oregon	1	12,000
Pennsylvania	2	650,000
Utah	2	42,000
Wisconsin	2	140,000
Various		97,800
Total		3,179,900

LEASE PAYMENTS

Mr. LEHMAN. On page 67 you are requesting $16 million to make various lease payments at your Oklahoma City facilities. Why are these items not included in your operations budget instead of F&E?

Mr. PETERSON. Mr. Chairman, this is a proposal in the 1987 budget for a transfer of funding responsibility from the Operations appropriation I&M activities to F&E. It is primarily at our Oklahoma City facility, but also includes rents, communications and utility charges at our Technical Center in Atlantic City. We felt that the support that these areas were giving were more closely supporting the NAS plan, thus F&E funding responsibility vice Operations.

MAINTENANCE CONTROL CENTERS

Mr. LEHMAN. Please provide for the record a site-by-site breakdown of your $5.5 million request to establish maintenance control centers showing location, cost, and commissioning date.

[The information follows:]

The $5.5 million requested will be used to enhance the Systems Maintenance Monitor Console capabilities at 20 CONUS Air Route Traffic Control Centers. We are using these consoles at the centers to take advantage of Remote Maintenance Monitoring capability currently available there. Procurement planning is proceeding now with the initial contract award later this fiscal year using approved FY 1986 project funds. The specific site schedules and implementation timeframes are subject to completing that planning and acquisition award phases. Service is expected to be available from some sites during FY 1987.

SEI CONTRACTOR

Mr. **Lehman**. On page 69 you are requesting $82.5 million for systems engineering and integration support. Of this amount, $77.1 million is for the SEI contractor—Martin Marietta—and $5.4 million is for an SEI support contractor—which we assume is MITRE. Last year we were told that MITRE's funding would be dropping off as Martin Marietta came up to speed. MITRE received a total of $35.9 million from all FAA appropriations in fiscal year 1985, and you had budgeted about $28 million in fiscal year 1986. Is MITRE's work still dropping off as expected? How much in total will MITRE receive in fiscal years 1986 and 1987?

Mr. **Pozesky**. Mr. Chairman, yes, the MITRE effort has been reduced. We are projecting about a $28.8 or $29 million estimate for fiscal year 1986. We are presently talking with the Office of the Secretary about our levels for fiscal year 1987. We are targeted at 150 man-years but we may be proposing to go up from that, but it has been reduced from our earlier levels.

Mr. **Lehman**. What you buy from MITRE is just opinions and advice, right? You don't buy equipment from them?

Mr. **Pozesky**. No, we don't buy any equipment. We buy a lot of technical analysis, and we do, I might say, get a lot of good advice, but, as is always the case, we do get some advice that we can't take.

Mr. **Lehman**. This 150 number that you gave us, what is that?

Mr. **Pozesky**. That is the amount which is now proposed in the fiscal year 1987 contract for the man-years of MITRE effort. I would add that we think internally we will probably be requesting a growth above that level. It will be lower than this year, but we will still be proposing to go above that 150 level in 1987.

Mr. **Lehman**. Is that just for MITRE?

Mr. **Pozesky**. Just for the MITRE Corporation.

SEIC PERFORMANCE

Mr. **Lehman**. They ought to give you something for that besides advice.

Is Martin Marietta performing satisfactorily in your view? Have they been receiving the maximum performance bonuses that have been allowed?

Mr. **Pozesky**. Mr. Chairman, they have been performing satisfactorily. It is not really a performance bonus as such. It is what is called an award fee, in which their performance is rated, and they get at the government's discretion anything between zero and 100 percent of their allowable fee. They have been getting about 77-80 percent ratings. We believe that it rewards them for their performance but also allows sufficient room for improvement in the future.

Mr. **Lehman**. Please provide for the record an update of the SEIC performance data found on page 644 of last year's hearing record.

[The information follows:]

Period	Award fee pool	Amount awarded
1. February 1984 to July 1984	$1,391,655	$1,078,532
2. August 1984 to January 1985	[1] 2,097,138	1,727,810
3. February 1985 to July 1985	[1] 3,310,534	2,421,494
4. August 1985 to January 1986	4,379,694	3,294,861
5. February 1986 to July 1986	5,123,335	(TBD)

[1] Adjustments have been made in periods 2 and 3 to reflect contract modifications, which were in process but not yet negotiated at this time last year.

SEIC PERSONNEL LEVEL

Mr. **Lehman**. Last year we were told the Martin Marietta staffing target for fiscal year 1987 would be 947. Is that still accurate? If not, why not?

Mr. **Pozesky**. The 947 is the base. To that we have proposed to add two increments. One is an increase in support in the advanced automation effort, and the other is some additional support in other elements of the NAS plan. We believe that we could be as high as 1200 or 1300 people supporting us through the Martin contract.

Mr. **Lehman**. Please provide for the record an update of the SEI staffing table found on page 645 of last year's hearing record.

[The information follows:]

Fiscal year	Baseline estimate	Previous estimate	Current estimate	Variance from previous estimate
1984	287	333	[1]333	0
1985	490	577	[1]736	+159
1986	799	764	1,063	+299
1987	997	947	1,200	+253
1988	1,056	1,028	1,270	+242
1989	1,072	1,052	1,201	+149
1990	970	970	1,112	+142
1991	872	872	958	+86
1992	733	733	800	+67
1993	530	530	595	+65
1994	452	452	496	+44

[1] Actual.

The fiscal year 1984 increase and a portion of the fiscal year 1985 increase occurred because the contract startup period was more difficult than anticipated and early system design and project support was necessary to meet NAS Plan schedules. The increases in manpower estimates in all other years are due to a combination of two contract modifications which aggregate technical support of NAS Plan projects. These contract modifications, consolidating work originally planned for accomplishment by contractors other than SEI, have resulted in changes in total contract cost and manpower.

Mr. **Lehman**. Please also give us your best estimate as to how many ex-FAA employees are now employed by the SEI.

[The information follows:]

The number of former FAA employees working for Martin Marietta, including all subcontractors hired since contract award in January 1984, is 48, or about 4.5 percent of the current work force.

FLEET CONVERSION PROGRAM

Mr. **Lehman**. On page 73 you are requesting a total of $9.091 million for various pieces of equipment to install on FAA aircraft. What is the status of your $139 million fleet conversion program in which you planned to buy or lease 30 different aircraft?

Mr. **Broderick**. Mr. Chairman, as we discussed the other day, on the first and major procurement of the 19 light twin engine aircraft, we received the bids and we expect to award a contract in June. Within the next year, we expect to award two other contracts. One is a contract for two light long-range jets, and the other is five special-mission turboprops.

Mr. **Lehman**. These are all——

Mr. **Broderick**. Our intention is to buy them but if a lease is a better deal, we will consider a lease. We have asked for both kinds of lists.

Mr. **Lehman**. Do you plan to lease or buy the new aircraft?

[The information follows:]

We will exercise the least expensive method that provides the best benefit cost ratio to the Government.

AIRCRAFT PROCUREMENT

Mr. **Lehman**. Please provide for the record a detailed justification of your decision to lease or to buy these aircraft.

[The information follows:]

The justification will be based on an economic decision using a 10-year life cycle cost comparison of lease versus purchase. Cost analyses will be provided under separate cover.

Mr. **Lehman**. Please update for the record the fleet conversion funding table found on page 288 of last year's hearing record.

[The information follows:]

	Obligated to date	Proposed obligations	
		Balance FY-1986	FY-1987/88
19 light twin turboprop		$39,424,800	$2,275,200
2 light long range jet			21,450,000
5 special mission turboprop			23,103,600
4 multipurpose turboprop			26,800,000
B-727 simulator	$7,993,000		
4 BE-F90 aircraft (exercise purchase option)		1,148,940	869,060
Technical upgrade and avionics equipment	6,030,214	2,911,966	6,683,196
Total	14,023,214	43,485,706	81,181,056

Total program funding $138,689,976

NEW REPLACEMENT AIRCRAFT

Mr. **Lehman**. Please also update for the record the fleet conversion table found on page 647 of last year's hearing record.

[The information follows:]

Fleet Conversion Program Funding

The following is provided regarding the procurement of new aircraft:

(Dollars in millions)

Aircraft Type	Year	Mission	Amount	Procurement Status	Delivery
15 Light Twin Turboprop.......	1983	Flight Inspection...........$	30,000,000	RFP Issued 4-1-85.........	Start 6/87
4 Light Twin Turboprop.......	1984	.......do....................	11,700,000	Combined with 15 Aircraft.	- -
2 Light Long Range Jet.......	1983	.......do....................	21,450,000	RFP Issued 1/86...........	Start 12/87
1 Multipurpose Turboprop.....	1983	Flight Insp/Log.............	13,500,000	Planned RFP Issue 7/86....	Start 4/88
3 Special Mission Turboprop..	1983	Flight Inspection...........	11,703,600	Planned RFP Issue 4/86...	Start 1/88
2 Special Mission Turboprop..	1984	......do....................	11,400,000	Combined with 3 Aircraft..	- -
3 Multipurpose Turboprop.....	1988	(1) Training (2) Research... and Development	13,300,000	Combined with 1 Aircraft..	- -
4 Beech F-90 (Exercise....... Purchase Option)	1983	Evaluation Currency Trans...	2,018,000	-	- -

In addition to the aircraft already removed from the FAA active inventory, after delivery of the new aircraft, the following aircraft will be removed:

Aircraft Type	Number
B-727..............................	1
NA-265-80..........................	15
NA-265-40..........................	4
AC-1121............................	5
CV-580.............................	5
G-159..............................	1
AC-680.............................	1
BE-C90.............................	1
Total..............................	33

OWNED LEASED AIRCRAFT FLEET

Mr. **Lehman**. Please also update for the record the FAA aircraft fleet table found on pages 649 through 654 of last year's hearing record.

[The information follows:]

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FAA OWNED/LEASED AIRCRAFT FLEET

Type of Aircraft	Model	Year Acquired	Estimated Flight Hr Service Limit (Yr)	Acquisition Cost	Base	Orig. Acquisition & Mission Justif.	Current Mission Assign.	Altern. Mission Assign.
FAA Owned								
N#'s								
1 Lockheed Jetstar	L-1329/731	2/63	N/A	$1,450,517	Washington, DC	ECT	ECT	
40 Boeing	B-727/100QC	10/77	N/A	3,625,000	Atlantic City, NJ	R&D	R&D	F/I
77 Boeing	B-727/30	10/75	N/A	2,756,000	Honolulu, HI	F/I	F/I	
29 McDnl/Douglas	DC-9	5/66	N/A	2,085,944	Oklahoma City, OK	TRNG	TRNG	
34 Douglas	DC-3	4/67	N/A	90,000	Oklahoma City, OK	F/I	F/I	
86 Sabreliner	NA-265-40	12/68	2020	1,322,000	Oklahoma City, OK	TRNG	TRNG	
87 Sabreliner	NA-265-40	1/69	2019	1,322,000	Tokyo, Japan	F/I	F/I	
88 Sabreliner	NA-265-40	2/69	3077	1,322,000	Oklahoma City, OK	F/I	F/I	
89 Sabreliner	NA-265-40	4/69	2024	1,322,000	Tokyo, Japan	F/I	F/I	
51 Sabreliner	NA-265-80	6/75	1987	2,282,262	Battle Creek, MI	F/I	F/I	
52 Sabreliner	NA-265-80	4/75	1987	2,282,262	Frankfurt, Germany	F/I	F/I	
53 Sabreliner	NA-265-80	5/75	1988	2,282,262	Battle Creek, MI	F/I	F/I	
54 Sabreliner	NA-265-80	7/75	1988	2,282,262	Atlanta, GA	F/I	F/I	
55 Sabreliner	NA-265-80	8/75	1987	2,282,262	Atlanta, GA	F/I	F/I	
56 Sabreliner	NA-255-80	9/75	1988	2,282,262	Anchorage, AK	F/I	F/I	
57 Sabreliner	NA-265-80	9/75	1988	2,282,262	Oklahoma City, OK	F/I	F/I	
58 Sabreliner	NA-265-80	10/75	1988	2,282,262	Atlanta, GA	F/I	F/I	
59 Sabreliner	NA-265-80	12/75	1989	2,282,262	Sacramento, CA	F/I	F/I	
60 Sabreliner	NA-265-80	11/75	1986	2,282,262	Oklahoma City, OK	F/I	F/I	
61 Sabreliner	NA-265-80	10/75	1989	2,282,262	Battle Creek, MI	F/I	F/I	
62 Sabreliner	NA-265-80	11/75	1986	2,282,262	Battle Creek, MI	F/I	F/I	
63 Sabreliner	NA-265-80	2/76	1987	2,282,262	Sacramento, CA	F/I	F/I	
64 Sabreliner	NA-265-80	12/75	1990	2,282,262	Oklahoma City, OK	F/I	F/I	
65 Sabreliner	NA-265-80	1/76	1989	2,282,262	Frankfurt, Germany	F/I	F/I	
80 Jet Commander	AC-1121	6/74	N/A	1,707,881	Atlantic City, NJ	F/I	F/I	
81 Jet Commander	AC-1121	6/74	N/A	1,707,881	Atlantic City, NJ	F/I	F/I	
82 Jet Commander	AC-1121	12/74	N/A	1,707,881	Oklahoma City, OK	F/I	F/I	
83 Jet Commander	AC-1121	10/74	N/A	1,707,881	Atlantic City, NJ	F/I	F/I	
84 Jet Commander	AC-1121	10/74	N/A	1,707,881	Atlantic City, NJ	F/I	F/I	
25 Cessna Citation	CE-500	7/73	N/A	329,700	Seattle, WA	ECT	ECT	F/I

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Type of Aircraft	Model	Year Acquired	Estimated Flight Hr Service Limit (Yr)	Acquired Cost	Base	Orig. Acquisition & Mission Justif.	Current Mission Assign.	Altern. Mission Assign.
FAA Owned N#'s								
47 Convair	CV-580	1/59	N/A	$ 735,000	Atlantic City, NJ	F/I	R&D	F/I
74 Convair	CV-580	1/58	N/A	735,000	Oklahoma City, OK	F/I	LOG	F/I/TRNG
90 Convair	CV-580	10/56	N/A	735,000	Anchorage, AK	F/I	F/I/LOG	
91 Convair	CV-580	11/57	N/A	735,000	Atlantic City, NJ	F/I	R&D	F/I
92 Convair	CV-580	12/57	N/A	735,000	Oklahoma City, OK	F/I	F/I	
3 Gulfstream I	G-159	5/66	N/A	1,353,000	Washington, DC	F/I	ECT	F/I
48 Gulfstream I	G-159	5/61	N/A	1,177,648	Atlanta, GA	R&D	F/I	
4 Super King Air	BE-200	11/76	2012	1,635,075	Atlantic City, NJ	F/I	F/I	ECT
50 Aero Commander	AC-680	2/60	N/A	126,500	Atlantic City, NJ	R&D	R&D	ECT
5 King Air	BE-C90	4/80	2013	795,575	Seattle, WA	ECT	ECT	F/I/TRNG
16 King Air	BE-C90	3/80	2018	795,575	Kansas City, KS	ECT	ECT	F/I/TRNG
17 King Air	BE-C90	3/80	2010	795,575	Ft. Worth, TX	ECT	ECT	F/I/TRNG
19 King Air	BE-C90	5/80	2029	795,575	Atlanta, GA	ECT	ECT	F/I/TRNG
20 King Air	BE-C90	6/80	2018	795,575	Chicago, IL	ECT	ECT	F/I/TRNG
38 Sikorsky	S-76	10/83	N/A	3,125,994	Atlantic City, NJ	TRNG	R&D	ECT
2 Cessna C-II	CE-550	10/78	N/A	1,457,758	Washington, DC	ECT	TRNG	TRNG
Lease/Purchase								
N#'s								
13 King Air	BE-F-90	4/81	2007	352,276	Farmingdale, NY	ECT	ECT	F/I/TRNG
14 King Air	BE-F-90	6/81	2025	352,276	Los Angeles, CA	ECT	ECT	F/I/TRNG
15 King Air	BE-F-90	6/81	2041	352,276	Burlington, MA	ECT	ECT	F/I/TRNG
18 King Air	BE-F-90	7/81	2019	352,276	Honolulu, HI	ECT	F/I	TRNG
Lease								
18MB Beech C-90	BE-C-90	5/83	-	51,066	Oklahoma City, OK	TRNG	TRNG	

F/I — Flight Inspection

LOG — Logistics

ECT — Evaluation, Currency, Transportation

TRNG — Training

R&D — Research and Development

N/A — Not applicable; no established service life limit on type certificate.

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AIRCRAFT FLEET
(End of Year Totals)

TYPE OF AIRCRAFT	NO. OF ENGINES & ENGINE TYPE	ESTIMATE 9-30-86 b/	ESTIMATE 9-30-87 b/
1. FAA Owned -			
a. Flight Inspection & Logistics			
Light Long Range Jet	2 Jet	0	2
Boeing B-727	3 Jet	1	1
Rockwell Int'l Sabre 40	2 Jet	3	0
Rockwell Int'l Sabre 80	2 Jet	15	8
Rockwell Int'l AC-1121	2 Jet	5	5
Grumman G-159	2 Turboprop	1	1
Convair CV-580	2 Turboprop	2	2
Turbine Light Twin	2 Turboprop/Jet	0	8
Beech F-90	2 Turboprop	0	1
Beech BE-200	2 Turboprop	1	1
Douglas DC-3	2 Piston	1	1
		29	30
b. Evaluation, Currency, Transportation			
Lockheed L-1329/731 a/	4 Jet	1	1
Grumman G-159 a/	2 Turboprop	1	1
Beech C-90	2 Turboprop	5	5
Cessna CE-500	2 Jet	1	1
Beech F-90	2 Turboprop	0	3
Cessna CE-550 a/	2 Jet	1	1
		9	12
c. Training			
Douglas DC-9	2 Jet	1	1
Rockwell Int'l Sabre 40	2 Jet	1	1
		2	2
d. Research & Development			
Boeing B-727	3 Jet	1	1
Convair CV-580	2 Turboprop	3	3
Sikorsky S-76	2 Turbo Rotors	1	1
Aero Commander AC-680	2 Piston	1	1
		6	6
TOTAL FAA OWNED		46	50

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TYPE OF AIRCRAFT	NO. OF ENGINES & ENGINE TYPE	ESTIMATE 9-30-86 b/	ESTIMATE 9-30-87 b/
2. Commercial Leased -			
a. Flight Inspection & Logistics			
Beech F-90	2 Turboprop	1	0
b. Evaluation, Currency, Transportation			
Beech F-90	2 Turboprop	3	0
c. Training			
Beech C-90	2 Turboprop	1	1
TOTAL COMMERCIAL LEASED		5	1
FLEET TOTAL		51	51

a/ Aircraft Mission Also Training
b/ Transition Period for Phaseout of Flight Inspection Aircraft

INTERIM ADVISORY RESPONSE SYSTEM

Mr. **Lehman**. Mr. Carr, do you have any questions before we go to research and development?

Mr. **Carr**. Yes, a couple of things, Mr. Chairman.

One has to do with the interim advisory response system. You may have gone over this a little bit.

Mr. **Pozesky**. No.

Mr. **Carr**. Where are we on that?

Mr. **Pozesky**. We are continuing to fund that system. This is an example where the FAA went to the private sector, encouraged the service, and leased the service. We are, I think, in our third or fourth year of the lease with the company providing that service. We are proposing in this budget money to continue that service. We ultimately hope to phase out that service when we get the direct user access capability in and operational.

Mr. **Carr**. Doesn't it need to be expanded? How much coverage have you got now?

Mr. **Pozesky**. We have 24 IVRS locations, and I think the last analysis I looked at showed that you could reach something like 25 to 30 percent of the G.A. community with a local telephone call, and with a long distance phone call conceivably you can reach 100 percent of the community.

We have a proposal for direct user access terminals, whereby a pilot can dial into the flight service system, which we think will provide better service. So in a sense we are proposing to expand it.

Mr. **Carr**. The direct access, that implies some equipment on the part of the interrogator, right?

Mr. **Pozesky**. Yes, it implies as a minimum a touchtone phone, and probably as a maximum a home computer, one of the smaller versions.

Mr. **Carr**. Can you get the same information that is currently available through the interim?

Mr. **Pozesky**. Yes, we believe you would be able to get much better information.

Mr. **Carr**. Just using a phone, using a keypad on a phone?

Mr. **Pozesky**. Yes, the information would be voice generated, and you can get more complete information. With a modest home computer—and I say modest in the sense of a $200 or $250 investment on the part of the user—you can get graphics capability of local weather phenomena and terrain, and a complete hard copy printout you can take with you on your flight.

Mr. **Carr**. How long are you going to be requesting funds for the interim voice response system?

Mr. **Pozesky**. We have a contract that can be renewed each year for up to 5 years. We will have to go through the contracting process to expand that. Whether we will have to formally re-compete or whether we can go to sole-source, we haven't decided yet. But we hope to be able to keep the service in place until DUATS is available.

Mr. **Carr**. When will the contract be up?

Mr. **Pozesky**. It has about 2-1/2 years to go.

Mr. **Carr**. Is DUATS being slipped?

Mr. **Pozesky**. No, sir. We have been examining various strategies for obtaining the DUATS service. That is whether or not we ought to put DUATS in as part of our flight service station model II program, or whether or not we ought to make more aggressive use of the kinds of capability that is available in the private sector today. There are certain states that are currently operating systems that provide quite a sophisticated level of capability.

The Congress has asked us to examine our approach to DUATS. We owe the Congress a report. We are presently clearing that report through the administration, but we do, as part of our strategy, expect to make more extensive use of the private sector capabilities.

Mr. **Carr**. Does IVRS use an 800 number?

Mr. **Pozesky**. No. I have a booklet here that talks about the capability of IVRS. There are 24 IVRS locations that are within local telephone calls of the user community, and I do not think it is an 800 number.

Mr. **Carr**. Has an 800 number been explored?

Mr. **Pozesky**. Yes, it has. There is 800 service available today in many of the flight service station locations. It has been explored. We have not gone to an 800 number for IVRS, and I don't know that we have any plans to do that.

Mr. **Carr**. Could you supply for the record some of your thoughts on that? If not, why not?

Mr. **Pozesky**. Yes, I would be happy to. The answer is that the 800 number is an expensive service. We are providing it to the flight service station, but we will be happy to provide some discussion for the record on our thoughts on that.

Mr. **Carr**. Is the strategy here to locate IVRS in areas where you are trying to work off a flight service station problem?

Mr. **Pozesky**. No. The original strategy was to locate it where you could reach the most extensive amount of the general aviation flying public within local telephone calling distance and to balance that against a reasonable cost. We have done that, we believe.

VISUAL APPROACH GLIDE SLOPE INDICATORS

Mr. **Carr**. Let's talk just for a minute about visual approach glide slope indicators, particularly PLASI. There has been a sort of an up and down history of PLASI from the industry, if I am not mistaken, approved and not approved?

Mr. **Broderick**. I think Mr. Donahue and I can try to answer your questions, Mr. Carr. PLASI is a system which is approved for heliport use. I believe that it is not approved for funding under the AIP program for fixed-wing use. PAPI is the system of choice for that. The reason is to promote standardization of the approach and landing system, the visual guidance system and to provide commonality with the ICAO standard which in fact selected that.

Mr. **Carr**. I can't claim to have flown all these systems, but from what I understand, what you get in the cockpit is about the same as what you are looking at?

Mr. **Broderick**. The quality of the visual guidance that is provided is not really in question. The question is to select a limited number, hopefully one visual display to promote a standardization, so that a pilot knows what to look for. We were at a point some 18 months or two years ago where the Administrator felt that the proliferation of designs which provided adequate guidance was too much, so he wanted to limit the installation to the minimum number to promote commonality and avoid as much confusion as is possible.

In doing that, he went through a fairly elaborate process that has had a number of public comments submitted to the FAA, and there has been a formal evaluation of those, and a decision process that has selected PAPI.

Mr. CARR. What is different? I am a pilot and I am on final approach. What am I looking at in PLASI that is different than I am looking at in PAPI?

Mr. BRODERICK. PLASI is essentially a single light which changes color depending on whether you are above or below the glide slope. It changes in what looks like flash duration, depending on whether you are higher or lower on the glide slope.

Mr. CARR. Is it the same red and white?

Mr. BRODERICK. It is in fact a red and white system, but it is not the same in terms of the visual presentation that you would have with IVRS, VASI or PAPI. VASI, of course, is a system that everyone knows, and PAPI is the new ICAO standard which has been presented for optimal visual presentation, which has effectively a horizontal changing display. So there are actually three totally different displays.

Mr. CARR. The Air Force bought PLASI, right?

Mr. BRODERICK. I am not sure. Do you know Mr. Donahue?

Mr. DONAHUE. The Air Force tested both PLASI and PAPI and decided that either system could be used at the option of the base commander.

Mr. BRODERICK. PLASI is especially effective on heliports and oil rigs, where there is very limited land for installation of a large system. PAPI and VASI are both larger systems. Of course, VASI is no longer being installed. It is the old ICAO system. PAPI is the system that is now being installed throughout the world.

Mr. CARR. I guess I just don't understand this idea of standardization. It seems to me that maybe you are just trying to standardize the boxes this stuff comes out of rather than the presentation to the pilot.

Mr. BRODERICK. It is actually the presentation to the pilot, sir. The thought is that if there are multiple visual presentations to the pilot for an on-course, above or below course indication, that there is a possibility that the pilot can for a moment need to think about it and recall: Now what do I do to correct my glide slope with this particular presentation.

And as a result, human factors people I think will readily agree that, at least in the abstract, standardization and a single presentation is better than a lack of standardization and multiple presentations, even when multiple presentations are equally effective.

Mr. CARR. Is PLASI closer to VASI or PAPI? I know VASI. I just don't know the other two.

Mr. BRODERICK. I don't think you can compare PLASI to VASI or PAPI. PLASI is just a completely different single-bulb system, which has a varying flicker rate depending on where you are located in the above or below course section, and a different color.

Mr. **Carr**. A light color?

Mr. **Broderick**. In addition to the color.

Mr. **Carr**. It has got the same color change that VASI has got?

Mr. **Broderick**. Yes, except you only see either red or white, whereas in VASI you see both red and white. We have some data that we would be happy to supply for the record, which summarizes the three different displays and the difference between them. They are quite different.

Mr. **Carr**. I apologize to the Committee and to you for not having done my homework on this particular one. But it just occurred to me that this may be standardization without purpose. But let's get some more information from you on it.

Mr. **Broderick**. I will be happy to supply it to you, sir.

Mr. **Carr**. I guess that is all for now.

[The information follows:]

Visual Approach Slope Indicators

Visual Approach Slope Indicator systems consist of 2, 4, 6, 12 or 16 light units arranged in bars referred to as near, middle, and far bars. Most consist of 2 bars, near and far. Some airports have Visual Approach Slope Indicators consisting of three bars, near, middle and far, which provide an additional glide path for high cockpit aircraft (e.g., 747, L-1011, DC-10). The basic principle of the Visual Approach Slope Indicator is that of color differentiation between red and white. Each light unit projects a beam of light having a white segment in the upper part of the beam and red segment in lower part of the beam. The light units are arranged so that the pilot using the Visual Approach Slope Indicator during an approach will see red lights in the far bar(s) and white lights in near bar(s) when flying on the desired flight path. If the pilot begins to to see red lights from both far and near bars he then knows that he must fly up or shallow the descent rate in order to make good the desired flight path.

The Pulse Light Approach Slope Indicator (PLASI) is a pulsating visual approach slope indicator which also utilizes color differentiation between red and white light signals to designate the proper "on glide-path" signal. The unit consists of a single light unit which projects a two-color (red and white) light signal which pulsates in the respective color when the pilot's eye reference is either above (pulsating white) or below (pulsating red) the desired flight path. The "on-glide path" signal is a steady white light.

The Precision Approach Path Indicator (PAPI) uses light units which are similar to Visual Approach Slope Indicator but which are installed in a single row of either two or four light units side by side rather than in a near-far arrangement. The red, white light differentiation is also similar except that the on-glide path signal occurs when the two left lights appear white and the two right lights appear red. A slightly high signal is three white lights and one red, whereas a slightly low signal is three red lights with one white.

RESEARCH, ENGINEERING AND DEVELOPMENT

Mr. **Lehman**. Turn to research, engineering and development. What do you believe your two or three most significant research and development accomplishments have been during the past year?

[The information follows:]

Completion of Host testing.

Regulatory support to cabin materials testing rule.

Regulatory support to dynamic seat testing rule.

NEW EQUIPMENT

Mr. **Lehman**. Would you indicate for the record any major new equipment you have completed the development of during the past year and any which you plan to compete during fiscal year 1986?

[The information follows:]

The Host computer system was completed during FY 1985.

Mr. **Lehman**. Last year you listed seven projects which you had completed in fiscal year 1984 or were to be completed in fiscal year 1985. Would you indicate for the record where you stand with respect to the installation of this new equipment?

[The information follows:]

Conflict Resolution Advisory—activity has been suspended pending revalidation of requirements. It is planned to be implemented after installation of Host Computers.

Conflict Alert—Mode C Intruder—first operational delivery is scheduled for January 1987 and program completion scheduled for December 1988.

TCAS II—operational deployment will commence in June 1986.

ARTS II Enhancements—production system is in design stage with first operational system planned for April 1987.

Microwave Landing System (MLS) Service Test and Evaluation Program (STEP)—The STEP program produced no equipment specification, but instead produced operational procedures for use with MLS. MLS development was completed in 1982 with first production system scheduled for delivery in June 1987.

ATC Host Computer—first operational delivery is scheduled for May 1986.

ATC Enroute Automation (AERA 1)—first operational date is schedule for November 1993.

Mr. **Lehman**. Does your fiscal year 1987 request include funding for any new projects or programs?

[The information follows:]

There are no new projects or programs

CONTRACTS WITH MITRE

Mr. **Lehman**. Last year it was stated that your work at MITRE would diminish as your SEI contractor came onboard. To what extent is this happening?

[The information follows:]

In FY 1985 we contracted for 285 technical employees with MITRE Metrek. In FY 1986 we are contracting for 247 technical employees. We have requested a total of 225 technical employees for FY 1987. This decline is somewhat slower than was envisioned last year and results from the annual reappraisal of requirements.

Mr. **Lehman**. Would you provide for the record a list of those projects conducted by MITRE, including the costs associated with each for fiscal years 1986 and 1987?

[The information follows:]

	FY 1986	FY 1987
Schedule I—Program Engineering and Management: Engineering Support primarily for selected National Airspace System plan projects	$6,601,618	$8,154,770
Schedule II—Systems Engineering: Engineering Support in the areas of Automated En Route ATC, National Airspace System Modernization, and Airport Capacity Improvements	17,682,088	17,520,750
Schedule III—Advanced Automation: Engineering support to the Advanced Automation Program in the areas of System Engineering, System Development, and Program Control Support	5,090,634,	4,656,000
Schedule IV—Environment: Support the Environment Program in the areas of Improved Oceanic Routes for Fuel Conservation and Controller Efficiency, Evaluating General Aviation Fuel-Burn Equations, Developing a Helicopter Fuel-Burn Equation, and in Fuel Efficient Flight Techniques and Applications	392,720	400,054

	FY 1986	FY 1987
Schedule V—Air Traffic: Support to Air Traffic in the areas of System Recovery and Revitalization of Human Resources and Performance and in Traffic Flow Management	$856,245	$1,455,540
Total	30,623,305	32,187,114

SOLE-SOURCE R&D CONTRACTS

Mr. **Lehman**. Last year it was indicated that for fiscal years 1983 through 1986 more than $110 million would be provided to MITRE under a sole-source contract. What is the reason for having such a large sole-source contract?

Mr. **Blake**. MITRE is the source for FAA in the automation area. We continue to require MITRE support, especially to support system level analysis, operational evaluation of our developed system, and to support further development of the advanced automation program.

Mr. **Lehman**. Are you their best customer or do they have other big customers?

Mr. **Blake**. The military is their best customer.

Mr. **Lehman**. What other sole-source research and development contracts do you have that are in excess of $3 million?

[The information follows:]

There are no other research and development sole source contracts in excess of $3 million.

NONPROFIT ORGANIZATIONS

Mr. **Lehman**. Would you update for the record the information on non-profit organizations which was included on page 661 of last year's hearing.

[The information follows:]

NONPROFIT ORGANIZATIONS

[Dollars in thousands]

	FY 1984	FY 1985	FY 1986
Mitre Corp., McLean, VA	$30,835	$35,921	$30,623
Lincoln Labs, Lexington, Mass	6,183	5,794	2,305
Total	37,018	41,715	32,928

FUNDING BY RE&D ACTIVITY

Mr. **Lehman**. Would you also provide a table, similar to the one on page 661 of last year's hearing, showing a breakdown by activity of the $196.83 million fiscal year 1986 appropriation and the $134.5 million fiscal year 1987 request.

[The information follows:]

COMPARATIVE SUMMARY OF APPROPRIATIONS

[Dollars in thousands]	1986 appropriation adjusted	1987 request
Air Traffic Control	$69,699	$70,805
System	25,881	20,609
Aircraft Separation Assurance	9,489	4,331
Communications	20,595	36,352
Airport/Airside/Landside	3,037	3,133
EnRoute Control	1,146	837
Flight Service Stations	1,535	1,548
Terminal/Tower Control	272	282
Technology	3,447	1,704
Support	4,297	2,009
Advanced Computer	80,870	22,895
Host Development	1,498	1,372
Advanced Automation System	79,372	21,523
Navigation	5,072	6,218
Navigation	2,625	3,344
Approach and Landing	2,447	2,874
Aviation Weather	10,210	6,770
Aviation Medicine	5,242	3,767
Aircraft Safety	23,003	22,445
Environment	2,734	1,600
Total	196,830	134,500

RE&D POSITIONS

Mr. **Lehman**. On page 7 you show a reduction of 200 full-time permanent positions, which is nearly 25 percent of those funded under this appropriation. What is the reason for this?

[The information follows:]

As key NAS Plan projects transition from their RE&D phase into implementation under the F&E appropriation, RE&D personnel at the Technical Center who have developed special expertise will be utilized to support certain F&E projects. In fiscal year 1987, we are requesting the transfer of 200 positions from RE&D to F&E since the workload will remain in F&E for several years beyond FY 1987.

AIR TRAFFIC CONTROL RESEARCH

Mr. **Lehman**. On page 9 you indicate that you have made several adjustments from your enacted fiscal year 1986 appropriations. The largest of these was a $15 million increase for air traffic control research offset by a similar decrease for your advanced computer activity. Would you explain the reason for this adjustment?

Mr. **Blake**. Yes. The adjustments were made actually after the Gramm-Rudman numbers were made available to us. Basically, the adjustments represent a shift out of the advanced automation program to support congressionally directed studies, university studies, and to provide increased support levels for the TCAS limited installation program, and the voice switching control system.

SYSTEM RESEARCH

Mr. **Lehman**. Your first activity is air traffic control and the first subactivity under this heading is system research for which you are requesting $20,609,000. On page 18 you state, "In fiscal year 1987, efforts will continue to refine the functional design for future NAS subsystems which are not yet completely specified." Could you be a little more specific as to what you intend to do with the $1.9 million you are requesting for this?

Mr. **Blake**. Yes, sir. The majority of that money is for in-house support at the Technical Center, and the primary tasks that are covered by it are associated with the weather systems design including efforts on definition of flow, functional definition of the weather communications processor and FAA/National Weather Service product interchange definition, and a small amount of the funding goes for support of the plan for research, engineering and development.

RUNWAY CONFIGURATION MANAGEMENT STUDY

Mr. **Lehman**. Last year it was indicated that you intended to conduct a field evaluation of your prototype runway configuration management system at O'Hare airport during fiscal year 1985. What did you learn from this field evaluation?

Mr. **Blake**. The evaluation conducted at O'Hare in 1985 was limited to a static display of the configuration management information to the controller. There were no real time inputs. The purpose of the 1985 effort was to better understand the man-machine interface requirements. As reported by Mr. Levine earlier, the operational tests will be conducted starting in August of this current year.

Mr. **Lehman**. You are still in the process?

Mr. **Blake**. Yes.

SAFETY VERIFICATION FLIGHT TESTS

Mr. **Lehman**. On page 20, what is the status of your safety verification flight tests regarding the possible reduction in vertical separation standards above 29,000 feet?

Mr. **Blake**. We are planning to complete by September of this year, September 1986, and by the end of this month we will have I think an update on air carrier aircraft. The remainder of the period we will focus on getting additional information on general aviation and military aircraft.

Mr. **Lehman**. What have you done or do you intend to do to verify the $60 million per year savings estimate associated with a reduction in these standards?

[The information follows:]

The $60 million estimate of savings was made several years ago when neither the avionics changes required to meet the requirements of a planned 1000-foot vertical separation were well known and the price of fuel was not stable. During FY 1987, we plan to use the knowledge gained from the height-keeping data collection and other avionics related inputs in conducting a new benefit/cost analysis. This new benefit/cost analysis will provide both domestic and oceanic results.

Mr. **Lehman**. You are requesting $11,802,000 for automated enroute air traffic control (AERA) research. Would you update for the

record the information on AERA that was included on pages 582 and 583 of last year's hearings. Please also include a brief description of the functional and performance requirements to be accomplished under each of these functions.

[The information follows:]

The Initial Sector Suite System (ISSS) is a part of the Advanced Automation System (AAS) and has never been a part of AERA. The ISSS will be implemented in the Air Route Traffic Control Centers to allow operational familiarization and use of the Advanced Automation System Sector Suite equipment in advance of availability of the full AAS configuration. The early deployment of the Sector Suite equipment will permit the Air Traffic Control System to realize substantial gains in controller productivity at the earliest possible time. These gains will result from an improved controller/air traffic control system interface, including the electronic display of flight data. The ISSS will replace the flight data input/output capability of existing computer update equipment and flight strip printer equipment with equivalent capabilities using the data entry and display devices in the Sector Suite, At the time of its implementation the ISSS will provide all functions currently available to the controller plus a subset of the new capabilities to be provided in the full AAS.

The cost for development and acquisition of the ISSS are included in the AAS and have not been estimated separately; therefore, a cost breakdown for the ISSS development and acquisition is not available.

AERA 1, AERA 2, and AERA 3, are major phases in the development of the AERA capability and are conceived to be evolutionary and complementary in design, each phase leading logically to the next.

AERA 1 will advise the controller about potential conflicts along the intended flight trajectory of each aircraft in the system to include conflicts with (1) other flight trajectories, (2) airspace restrictions, and (3) traffic flow restrictions. AERA 1 will provide these detection services both automatically for current flight plans in the system and on demand for controller-entered flight plans, called "trial plans," submitted for evaluation.

AERA 2 augments AERA 1 by providing computer-generated feasible resolutions to the controller for the potential flight trajectory conflicts predicted by AERA 1. AERA 2 introduces the concept of automated clearance generation for those resolutions that are controller approved.

AERA 3 will refine the application of automation to air traffic control to the extent that the controller will begin to be a manager and his involvement in the details of planning and control will be reduced. In AERA 3, the computer is expected to automatically handle, without controller intervention, the detection, resolution, and generation and delivery of clearances to pilots for conflict situations.

AERA is expected to be implemented at and above the flight level where radar coverage is provided and Mode C transponder equippage of aircraft is required. AERA will be extended to provide services to aircraft flying in gap areas of radar coverage and/or aircraft with failed Mode C transponders occurring at or above the defined lower altitude limit for AERA coverage. As technology improves and the AERA system is enhanced, AERA services will be further extended to include wider areas of coverage.

AERA SCHEDULE

AERA 1		($27,119,470)
AERA 1 Concept defined	1980	371,000
Demonstration testbed build 1 capability	1980	800,000
Demonstration testbed build 2 capability	1981	2,160,000
Top-level specification to Advanced Automation Program	1982	1,200,000
Inputs to the Advanced Automation System Specification	1983	1,000,000
Program plan and transition strategy	1983	3,500,000
Initiation of FAA Technical Center testbed development with interface to ATC simulation facility.	1983	1,100,000
Final AERA 1 specifications to Advanced Automation Program	1984	6,213,470
AERA 1 Operational Software developoment [1]	1986-87	10,775,000
AERA FAA Technical Center testbed development	1984-85	(3,137,030)
AERA 2		($37,645,500)
AERA 2 operational description	1985	3,476,250

AERA SCHEDULE—Continued

AERA 2 draft functional specification	1985	3,476,250
AERA 2 final functional specification	1986	3,338,000
AERA 2 operations concept	1986	752,000
AERA 2 operational software development	1988-89	26,603,000
AERA 3		($45,291,000)
AERA 3 Operational Analysis and Functional Concepts	1986-87	4,427,000
AERA 3 integrity and reliability issues	1987	1,000,000
AERA 3 functional specifications	1989	14,167,000
AERA 3 operational software development	1990-92	25,697,000
AERA 1 Operational First Site	1993	
AERA 1 Operational Last Site	1994	
AERA 2 Operational First Site	1997	
AERA 2 Operational Last Site	1999	
AERA 3 First Site Delivery	1999	

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[1] Funds allocated to the Advanced Automation System Design Competition Phase Contract for AERA 1 enhancements.

ADVANCED TRAFFIC MANAGEMENT SYSTEM

Mr. LEHMAN. On page 22 you state that your advanced traffic management system will link terminal, enroute and national flow management functions. What will this system provide that your current flow control system doesn't provide, and when will it be operational?

Mr. BLAKE. This activity represents an extension that will build on the capabilities of the current system. The spending objective is to improve the scope, the timeliness and the validity of the information supplied to and by the traffic management system.

Specific examples of the functions under development are real-time airport capacity estimates, and performance analysis which provides an assessment of traffic management system performance as a basis for changing traffic management strategies and identifying needs for improving the traffic management system.

AIRCRAFT SEPARATION RESEARCH

Mr. LEHMAN. You are requesting $4,331,000 for aircraft separation research and you indicate that the development of TCAS I, which was designed for the smaller general aviation user, has been completed. To what extent has general aviation indicated an interest in TCAS I, and how likely is it that TCAS I will be commercially available?

Mr. BLAKE. The general aviation organizations have indicated to us that they want a minimum operational performance standard before proceeding with the implementation of TCAS I, and they are currently working with the Radio Technical Commission for Aeronautics to produce that MOPS, as we call it, in 1987. So there has been considerable interest in it, and the user community is anticipating preparation of a standard.

Mr. LEHMAN. If TCAS I is not widely deployed, do you plan to compensate for it with alternative improvements to your ground-based system? If so, what are they?

Mr. BLAKE. No. The TCAS system was designed as a totally independent backup to the air traffic control system, and of course in the development of our advanced automation systems, we are building in the necessary monitors to be sure that the IFR system is normal operation and is completely safe.

ADVANTAGES/DISADVANTAGES OF TCAS

Mr. **LEHMAN**. You refer to a limited installation program (LIP) and you indicate that after this program you will transfer TCAS II production to the private sector. What are the advantages and disadvantages of your leaving the TCAS program after the TCAS II limited installation program?

[The information follows:]

The TCAS II Limited Installation Program (LIP), per se, represents the transfer of the Airborne Collision Avoidance Program to the private sector. At the behest of the aviation community, the FAA developed and perfected the TCAS to the point that it can be certificated for airline use. In the LIP, two avionics manufacturers and their airline team members will build and install 16 commercial quality TCAS II units which will be flown both domestically and in international airspace.

At the completion of the LIP, the FAA will be, at most, a source of technical data for airborne collision avoidance systems. The most advanced techniques and hardware will be the property of the participating LIP team members. We believe that FAA participation beyond this point of TCAS II development is unnecessary and, further, might tend to retard the normal avionics development.

The TCAS II LIP marks the termination of FAA development for TCAS II, however, efforts for TCAS I and TCAS III will continue until national standards and Minimum Operational Performance Standards (MOPS) are published. Traditionally the publication of MOPS is the point at which commercial development of avionics is initiated. We believe that this will be the case for TCAS I and TCAS III.

TCAS III

Mr. **LEHMAN**. Would you indicate for the record the advantages and disadvantages of remaining in the TCAS program until TCAS III has completed LIP testing and indicate the cost for this testing of TCAS III?

[The information follows:]

The FAA has sponsored a Limited Installation Program (LIP) for TCAS which provides Federal funding for an initial set of TCAS installations in airline aircraft. No LIP has been planned for TCAS III, therefore, the advantages and disadvantages of initiating such an extension to the overall TCAS program are addressed in the following discussion.

The primary advantage of providing a cost-shared LIP for TCAS III is that such a development effort would assure that the TCAS III capability is evaluated in airline usage. Furthermore, by taking advantage of the ongoing LIP efforts for TCAS II, a TCAS III LIP could be accomplished in piggy back manner using the same development teams and modifying the existing contracts which would minimize the development period.

The sole disadvantage of adding a TCAS III LIP to the current TCAS Program is that the additional procurement cost alone is estimated to be \$14–\$20M in addition to which the current TCAS Program funding level would need to be extended for an additional three years to provide the necessary management and technical support required.

Mr. **LEHMAN**. In your view, how does TCAS compare with your other programs with regard to safety benefits, program priority, and funding?

[The information follows:]

The TCAS Program has had a very high priority since its inception within the FAA. No efforts have been spared in the development of the program objectives and funding has always been available. Safety studies conducted for the TCAS II have shown that the probability of a TCAS II-equipped airliner having a mid-air collision is reduced by more than one order of magnitude with respect to any aircraft having an altitude encoding transponder.

PACKET SWITCHING NETWORK

Mr. **Lehman**. On page 26, would you elaborate for the record on your proposed packet switching network, indicating the potential benefits and procurement costs?

[The information follows:]

The implementation of National Data Interchange Network (NADIN) Packet Switching Network will provide state-of-the-art data communications support to a number of other National Airspace System projects such as the Weather Message Switching Center Replacement, Consolidated NOTAM System, Remote Maintenance Monitoring System, Traffic Management System, Central Weather Processor, Next Generation Radar, and Weather Communication Processor. It is designed to provide the high level of speed, efficiency, and reliability needed to interface these critical systems.

In order to attain the required performance and connectivity, a packet switching node will be installed at each area control facility. Each node will be directly connected to at least three other nodes by 56 kilobit-per-second backbone circuits. The network will be monitored and controlled by two interactive network control centers located at the Salt Lake City and Atlanta NADIN facilities.

The NADIN II Packet Switching Network will be a competitive acquisition utilizing a requirements type contract. Procurement costs have been estimated at $42.5 million.

A major benefit of the packet network is that it will provide the vital communication link which permits the efficient distribution of weather, radar, and air traffic movement data throughout the nation without dependence on rising costs in the leased communications marketplace. A cost benefit study has begun and will be completed prior to contract award.

VOICE SWITCHING AND CONTROL SYSTEM

Mr. **Lehman**. You are requesting $33,910,000 to continue your voice switching and control system (VSCS) research. What is the status of your design contract?

Mr. **Blake**. The design contract proposal is still under evaluation. The award of the contract we expect during the summer of 1986, perhaps June.

Mr. **Lehman**. Would you indicate for the record the annual estimated future research and development procurement costs for VSCS similar to that found on page 922 of our fiscal year 1985 hearing record?

[The information follows:]

VOICE SWITCHING AND CONTROL SYSTEM

[In millions of dollars]

	R, E&D	F&E	Total
Fiscal year:			
1986	18.9		18.9
1987	33.9		33.9
1988	24.7	37.1	61.8
1989	.4	127.3	127.7
1990		150.7	150.7
1991		26.1	26.1
Total	77.9	341.2	419.1

Mr. LEHMAN. Last year and in this year's justification it is indicated that the benefits of this program are reflected in the overall benefits of the AAS program. Will you include the costs of this program in your AAS cost/benefit study?

Mr. BLAKE. Yes, they will be included.

AIRPORT/AIRSIDE/LANDSIDE RESEARCH

Mr. LEHMAN. On page 29 you are requesting $3,133,000 for airport/airside/landside research. Congress has provided nearly $15.5 million for research in this area over the past five years. What is the most significant safety or capacity development produced with these funds, to what extent has it been implemented, and what specific benefits can you attribute to this development?

Mr. BLAKE. In the safety area, the past work that we have done on runway traction has resulted in increased benefit to cost grooving, and has proven to be highly effective in controlling the hydroplaning of aircraft tires. Some of the more recent work has indicated that we can increase the spacing between the grooves, reduce the costs of providing grooving and still achieve the same degree of effectiveness.

Also in 1986 we will be completing the tests we have been running with NASA on the measurement of aircraft and ground friction measuring devices, and trying to see what the correlation is between them. In the capacity area, we continue to conduct capacity studies. We will have completed about 10 of them, and each one of them identifies and then implements incremental improvements at these airports to continue to get whatever capacity improvements we can from such a process.

Mr. LEHMAN. It seems like you have concentrated on the airside of the research but not on the landside. What are you doing on the landside?

Mr. BLAKE. We have no current activities in the landside area.

Mr. LEHMAN. Do you plan any?

Mr. BLAKE. We are not planning any additional ones. We have worked that area fairly hard in the past and put out guidelines on those parts of the groundside to qualify for AIP funding.

AIRPORT PAVING MATERIALS

Mr. LEHMAN. You indicate that in fiscal year 1987 you will initiate work on new pavement materials such as polymers, resins and epoxies. Hasn't the Federal Highway Administration been studying these materials for years? To what extent can you take advantage of their research?

[The information follows:]

Beginning in 1987, our work on new pavement materials will include reviews of past and ongoing work and will take advantage of Federal Highway Administration research on airport pavement applications. Promising polymers, resins, and epoxies that can provide high strength, improved durability, and rapid repairability over conventional pavement materials will be investigated to decrease life-cycle cost of airport pavements. Developments are occurrring rapidly in polymers, resins, and epoxies. Work in the late 1980's may provide cost effective binders that can be a significant breakthrough for airport pavements.

FRICTION MEASURING DEVICES

Mr. **Lehman**. Would you indicate for the record the results of your joint tests with NASA regarding aircraft stopping performance and ground vehicle friction management?

[The information follows:]

All tests with aircraft and ground vehicle friction measuring devices were completed in March 1986. The analysis to correlate measurements is in progress. To date, we have the following trends:

1. Friction decrease with increase in speed, slightly on dry surfaces, significantly on wet surfaces. Grooved surfaces provide the highest friction.
2. Friction increase with increase in speed and with decrease in temperature on snow-covered surface;
3. Friction is insensitive to speed and lowest on ice-covered surface; and
4. Aircraft and ground vehicle friction measuring devices show similar trends.

The final report is expected in September 1986.

DIRECT USER ACCESS RESEARCH

Mr. **Lehman**. On page 32 you are requesting $1,548,000 for flight service station direct user access research As you know, the GAO has reviewed this program for the Committee and concluded that the commercial vendors' direct user access terminal system (DUATS) seems to be a timely, inexpensive and technically available option. Do you plan to try to develop a technical center DUATS? If so, how much more do you expect to spend on it?

Mr. **Pozesky**. Mr. Chairman, we do not plan to develop and implement per se a technical center DUATS. We do plan to do some research at the technical center that will contribute to writing a specification for a DUATS function that will in turn be competed to a vendor to provide a service. There are two areas of research. One is on Model 2 enhancements, and the other is area route forcasting and DUATS.

Mr. **Lehman**. What are you doing to publicize the availability of commercially available DUATS and encourage their use? For example, have you taken any actions to notify pilots of existing commercial DUATS weather briefing systems which they could use instead of flight service station services in order to minimize your workload?

Let me withdraw that question so Mr. Carr can ask his question.

Mr. **Carr**. My question has to do with the STC. Who is up to bat on that one?

Mr. **McDaniel**. Probably I can answer that, Mr. Carr.

Mr. **Carr**. As I understand it, the environment was such that it resulted in a situation where 707s had to deposit down, et cetera, an STC on that, and you were free to operate until it was installed, right? Is that roughly it?

Mr. **McDaniel**. Basically, there were in September of 1985 approved suppliers who were found to be bona fide if in fact they had obtained a certificate by that date which would enable the carrier under contract with that supplier to apply for and perhaps receive, if they met the other criteria, an exemption to continue operation, yes.

Mr. **Carr**. But really because of whatever, really applied to 707 Boeing aircraft?

Mr. **McDaniel**. 707 and DC-8s.

Mr. **Carr**. It applied to DC-8s as well?

Mr. **McDaniel**. Yes.

Mr. **Carr**. The 707 got an STC, right?

Mr. **McDaniel**. There was a supplier, yes, to provide for a hush kit for the 707, also two to provide hush kits for the DC-8.

Mr. **Carr**. What is the situation with the DC-8-60s?

Mr. **McDaniel**. The DC-8-61s and I believe it is DC-8-50s have no one who is an approved supplier, no one who has received an STC to retrofit those aircraft.

Mr. **Carr**. Is there anyone out there who is trying to do that?

Mr. **McDaniel**. Yes.

Mr. **Carr**. You are working with someone on an STC for a DC-8-60?

Mr. **McDaniel**. Two potential suppliers are actively pursuing that at the present time.

HUSH KITS

Mr. **Carr**. I talked to somebody who thinks they are. Whether you think they are not I don't know, but indeed, part of their complaint was not throwing it on the FAA. I wouldn't do that, but they indicated that of that portion of whatever problems there were that were FAA problems in Atlanta, the specter of Gramm-Rudman was slowing the paperwork down, and a variety of other things. They readily talked about having some redesign of their own. They learned some things in the process that put them back to the drawing boards, but I understand that there is someone out there who is trying to put a hush kit together for the DC-8-61.

Mr. **McDaniel**. If there are, Mr. Carr, we would be happy to cooperate with them in the process. There were approximately 18 potential suppliers of hush kits which had applied at one time or another to the FAA for various aircraft. Of those that they were aware of, all except three have become relatively inactive. Now, if there are others who are still pursuing technology which does not now exist, we would work with them cooperatively.

We would do everything we could to qualify the hush kits to meet the criteria so that those aircraft could be retrofited. There is nothing to my knowledge in Gramm-Rudman reductions which would cause us to say that we are slowing down any of those applications to suppliers.

Mr. **Carr**. The allegation was made in the sense that certain clerical things that needed to get done weren't getting done as quickly as they might have been under different circumstances. I think you really ought to take a check in Atlanta and find out if they are working with anybody, and then assuming that they are, and there is the prospect of an STC in the works, I am wondering what you might be willing to do by way of—assuming some applicant is successful with an STC, whether we could work out a situation that is analogous to the September deadline that you worked out.

Indeed, as long as somebody has a deposit down and they have got a scheduled conversion time, whether they would be able to operate until the conversion actually took place.

Mr. McDaniel. We would be happy to check on the Atlanta situation. I think the chances at the present time treating that situation to be analogous to the one of clearing in September of 1985 are very small.

The suppliers, all of them whom we worked with at the time we found those which were substantially in process and likely to be certificated before the end of 1985, were well known to both the people operating the aircraft and well known to the people who were in the process of trying to supply the hush kits. Everyone has operated and everyone has been treated uniformly the same under those rules.

I think it would be unlikely that we would now, particularly with the number of successful challenges that we have withstood through the courts, that we would now change those rules to accommodate the situation which has emerged. We would certainly be happy to review it.

Mr. Carr. I am certainly not one to want you, after all my questions over the years, to want you to slow down your deliberate efforts on noise reduction. I am not sitting here saying I want you to relax a bit, but at some point when someone has an STC, there is the practical problem of putting these on airplanes, and if somebody has shown good faith, has an order, has a deposit, and has a delivery date or a conversion time, then I think just with economics what they are, you ought to allow these people to operate. That isn't, I don't think, under my spirit of the law. It is just allowing some people to continue in business.

The other thing is you talk about how these people are all known to you. I think the FAA would hopefully allow for the fact that there might be something or someone out there who may not have had beaucoup cash on day one, whose own developmental plans may have been stalled for a variety of reasons, but who in the end can come through with a solid STC quality kit that shouldn't by virtue of the bureaucratic convenience of a date in September of 1985 preclude him, should it?

Mr. McDaniel. I certainly understand the argument, and we would encourage people, if they are in fact developing hush kits for DC-8s which presently don't have hush kits available, that they continue with that process. The economics of the marketplace in fact would cause the volume of those aircraft which could be hush-kitted to go up to encourage the hush kitting to reenter the service.

The question is those operators which are presently not exempted from the noise rules, can they come back into the U.S. and begin operations? They presently cannot. They are presently denied operating rights to and from the U.S. They could come back in now and begin operations anew. And anticipating that at some point in time they will be hush-kitted, I think the answer to that question is no. It would be most unlikely for that to occur, but that does not mean we wouldn't encourage the hush-kitting of those aircraft and their continued economic life.

I don't believe that is a change in the rules from the rules that were laid down quite clearly and understood by the suppliers.

Mr. Carr. Well, that was understood by all the players at that time who had the financial agility to march to the drummer. I think we don't want to make rules so darn inflexible that they can't see special situations, and rules can always be modified to take into account contingencies. I would hope that you would report back to us about who is in the ball game on this thing, or who is in the bull pen on STCs anyway, if they are not in the game, and what your office is doing about speeding those certifications along, to the extent that that is in the control of the FAA. And then I would just ask you to consider once an STC is granted, if it is going to be granted, if there is inevitably a time frame in getting those things all installed. If someone is of good faith, why strangle him for the sake of a date?

Mr. **McDaniel**. We will be happy to report back to you, Mr. Carr, and also take your question under advisement.

Mr. **Lehman**. I would just like to associate myself with the remarks of my colleague from Michigan.

I think this is a question of good faith efforts by these firms that have tried to comply. It is a question of financial commitments from these airlines. And it is a question also of the producers of this noise abatement equipment that is coming on line. And it is a question of the adverse economic impacts not only on airlines that are hanging by their fingernails, but in some cases on the communities that depend on these kinds of planes for carrying all sorts of things—like cut flowers, up or down. So we must really not be so rigid in regards to the overall policy, the overall noise detriment versus the benefit of using more flexibility.

Thank you, Mr. Carr, for making those statements.

Mr. Coughlin, do you have questions?

Mr. **Coughlin**. Thank you, Mr. Chairman.

Just one quick question. Is your $134.5 million in R&D request sufficient to continue the timely development of all the safety-related equipment?

Mr. **Blake**. We believe it is.

NONPRECISION APPROACH CERTIFICATION

Mr. **Coughlin**. No safety equipment is being delayed because of lack of funding. Thank you.

Let me ask a question on an unrelated subject, if I might, going back to Loran C. I understand the FAA is planning to integrate the Loran system into the National Air System. I understand there is $43 million in the budget. There is not enough money to certify nonprecision approaches. What is the budget for the nonprecision approach certification?

Mr. **Blake**. On that one, sir, we have a pilot program this year, this past year, which will end up in certification of the first eight sites, and this was conducted with our direct participation. As a result of that program, we have defined the steps that have to be taken for other operators to receive certification, and so we will be reverting back to the normal process that we will use in certifying any navigation system at this point.

Mr. **Coughlin**. How many do you expect to do in 1987?

Mr. **Blake**. I don't know that we have a fixed number yet for 1987.

Mr. **Broderick**. I don't think we do, Mr. Coughlin. I might just add that the problem that people may have with regard to the

Loran C is just the kind of problem that you run into when you all of a sudden essentially open up the possibility that literally thousands of approaches could be requested, and it is just going to be the initial transition in smoothly getting these into the system. We are undoubtedly going to be asked to certify more approaches faster than any reasonable set of resources would allow us to do.

I would expect that over the first six months to a year we will slowly work through that process, and hopefully be able to reasonably accommodate requests in the future. It is just a bubble kind of problem with a whole new concept being opened up, and the initial requirement that we expect laid down.

Mr. Coughlin. Thank you, Mr. Chairman.

Questions Submitted by the Hon. Frank R. Wolf

DULLES/NATIONAL TRANSFER

Mr. Wolf. On April 11, the Senate passed the Airport Transfer Bill, which would shift management of Washington National Airport and Washington Dulles International Airport from the federal government to a regional authority. What is your assessment of how the transfer of Dulles and National would benefit the airports (in terms of facility improvements), travelers, local citizens, and the federal government?

[The information follows:]

We believe the transfer of National and Dulles to a regional authority would be of considerable benefit to everyone concerned. Air commerce is essential to the well-being of any metropolitan area. The task of managing airport development and growth is best left to a locally oriented body who will devote the necessary time and interest to it.

In terms of facility improvements, the transfer will enable the new authority to issue revenue bonds to proceed immediately with major capital projects at both airports. At Dulles, we estimate that $420 million will be needed in the next 5 years for new development. The major element of this development plan is to build two 24-gate midfield terminals and an underground people-mover connecting them to an expanded main terminal building. At National, redevelopment options range from $110 million to $280 million, with emphasis on a redesigned roadway system, structured parking facilities, a METRO rail connection to the terminal building, and some terminal renovation. In today's deficit-conscious environment, we do not foresee funding of this magnitude being made available through the federal budget process.

The primary benefit to travelers from the transfer is through the ability of the new authority to provide facility improvements when they are needed, thus upgrading the quality and level of service at both airports.

Local citizens and citizen groups will benefit from the regional character of the new authority which will be particularly responsive to local interests. Except for National and Dulles, every major airport in this country is owned and operated by state or local public authorities which are accountable to the communities they serve. Airport use and future development are essentially local and regional issues that are best resolved by area officials.

The Federal Government will benefit by being relieved of an operating responsibility that is properly a local one. It will also provide the U.S. Treasury with revenues from the lease arrangement, while eliminating the large negative cash flow which would result for a period of years if the Federal Government were to finance the major capital improvements needed at these airports.

GROWTH AT DULLES

Mr. Wolf. Over five million passengers traveled through Washington Dulles International Airport during 1985. This was an increase of nearly 50 percent over the previous year, and commercial flights increased 47.5 percent for that time period. What efforts have been made at Dulles to keep up with this growth, continuing to provide adequate support facilities and maintaining a high level of service?

[The information follows:]

Considerable efforts have been made to keep up with the growth at Dulles, either directly by the FAA or through agreements negotiated by the FAA with the airlines and concession service companies at the airport.

During 1985, public parking capacity was expanded from approximately 4,000 to 10,000 spaces by the addition of two satellite parking facilities, major rehabilitation and restriping of the terminal building parking lot, and relocation of the rental car operations from that lot. In addition, a fleet of 12 high quality shuttle buses was added to service the satellite lots. Roadway signing, lighting and bus shelters were also added to the parking areas, and a radio advisory system and variable message sign system are under construction to better direct passengers to the available parking.

FAA is also considerably expanding the baggage claim capacity in the main terminal. Construction to expand the original four baggage claim devices is nearly complete, a fifth baggage claim area was constructed in early 1985, and a sixth baggage claim area is under construction and will be in service this summer.

FAA has negotiated agreements with air carriers to construct four temporary passenger handling terminals containing 34 aircraft parking positions. These air carriers are also providing airfield pavement, baggage claim capacity and other facilities needed to serve increased passenger levels. Under separate agreements, air carriers will construct four additional ticket counters and associated outbound baggage belts.

Improvements are also being made to the concession activities. The food and beverage restaurant facilities in the main terminal are being renovated and food services are being established in the new temporary terminals. Improved newstand, gift shop, bookstore and duty free retail shops have been constructed since the beginning of 1985.

Ground transportation services have been improved by a more efficient ground transportation service operating with new motor coaches procured by FAA and by a steadily increasing fleet of late model taxicabs.

However, even with these many improvements, Dulles will be experiencing capacity problems in the near future unless construction of the midfield terminal and other associated development are begun soon. For the most part, many of the above-described facilities are only stop-gap measures to serve the interim need until properly-planned, major improvements are made in the Dulles facilities.

DULLES PARKING

Mr. WOLF. Because of long lines of motorists waiting to get out of Dulles parking lots in recent months, FAA agreed to add several new exit lanes out of the lots to improve traffic flow. What is the status of these exit lanes? Rental cars were moved to satellite parking to ease the congestion problem. How much has this helped?

[The information follows:]

FAA recently completed a technical study which analyzed options for increasing the terminal parking lot exiting capacity, reducing curbside roadway congestion, and providing additional short-term parking spaces. This study is currently being reviewed and a decision will be reached shortly on which option to implement.

The relocation of the rental cars to remote facilities has made an additional 300 spaces available for public parking and has decreased exiting volumes by over 15 percent in the peak hour of the day. This reduction has helped to minimize the delays in exiting the parking lot.

FAA has also implemented a series of procedures to speed up the processing of vehicles through the cashier booths at those times when exit lines reach certain levels. These procedures have been successful in reducing exit delays, but they also reduce the level of cash control and fraud protection in the cashier system. They will be continued until more exit capacity is available and in service.

DULLES MIDFIELD TERMINAL

Mr. WOLF. What is the status of the Dulles Midfield Terminal? What are current estimates for its cost?

[The information follows:]

The contract for preliminary design of the midfield terminal was awarded in April 1985 and is scheduled to be completed in the early summer of 1986. A $4 million gift has been received from the Commonwealth of Virginia for the final design of the first midfield terminal. This final design is expected to be completed in 1987. The estimate for construction of the first midfield terminal is $122 million including the underground people mover system. Based on current projections, two 24-gate terminals should be constructed at a total cost of $241 million.

RULE REQUIRING ALCOHOL TEST FOR CREWMEMBERS

Mr. WOLF. As of April 9, 1986, a new FAA rule will be in effect requiring aircraft crewmembers to submit to chemical tests for alcohol given by law enforcement officers under certain conditions. It is based, in part, on NTSB's determination that alcohol is a cause or factor in a significant number of aircraft accidents every year. Could you tell me more about the implementation of this rule?

[The information follows:]

Under a new Federal Aviation Administration (FAA) rule, each crewmember of an aircraft must submit to a chemical test for alcohol given by a law enforcement officer under certain conditions. The law enforcement officer must be authorized by state or local law to conduct or otherwise obtain such a test. The officer must also have a reasonable basis to believe that the crewmember may have unlawfully used alcohol in connection with his or her crewmember duties. The new rule makes it clear that failure to submit to the test could result in suspension or revocation of a certificate or rating. In addition, civil penalty action can be taken against the crewmember. Flight attendants, who do not hold airmen certificates, are subject to civil penalty action.

The new rule enhances safety by providing an additional enforcement tool and by adding additional deterrence to flying in violation of the FAA's alcohol rules.

NOISE PROBLEMS AT NATIONAL

Mr. WOLF. This past year airlines have been using more fuel-efficient and quieter Stage III aircraft. What kind of improvements have been realized in noise problems around National as a result? Is anything being done to encourage more widespread use of these newer, quieter planes?

[The information follows:]

Several airlines operating at National have been substituting quieter Stage 3 aircraft, such as Boeing 757s and MD-80s, for Stage 2 aircraft, primarily the Boeing 727s. This has resulted in some reduction of noise around National, but the exact extent of the improvement has not been measured. Ways to encourage the introduction of greater numbers of quieter Stage 3 aircraft into the Nation's fleet have been addressed in detail in a recent FAA report to Congress entitled "Alternatives Available to Accelerate Commercial Aircraft Fleet Modernization." This report, which was transmitted to the Congress on April 11, 1986, was prepared in response to a request contained in House Report No. 99-256 by the House Appropriations Committee. The report identifies at least 15 potential economic and regulatory alternatives to achieve the objective of increasing the percentage of Stage 3 aircraft in the fleet.

AIRPORT RADAR SERVICE AREA

Mr. WOLF. Because of the increasingly crowded skies around Dulles, the FAA recently proposed a new Dulles radio rule, which would require all pilots nearing Dulles to stay in radio contact with the control tower. This proposed Airport Radar Service Area would supposedly enhance safety by giving air traffic controllers the full picture of planes in the area. At present, only those pilots planning to land at Dulles need to maintain radio contact. This rule has also been proposed at 66 other airports in the country. Has any action been taken regarding this recommendation?

[The information follows:]

Action has been taken on this recommendation. We currently have 47 Airport Radar Service Areas (ARSA) in effect. As of May 8, ARSA's were established at an additional 6 airports, bringing the total to 53. We have issued a Notice of Proposed Rulemaking proposing to establish ARSA's at 14 additional airports. If the proposed rule establishing an ARSA at Dulles is adopted, the ARSA will become effective August 28, 1986.

COMMERCIAL DUATS

Mr. LEHMAN. What are you doing to publicize the availability of commercially available DUATS and encourage their use? For example, have you taken any actions to notify pilots of existing commercial DUATS weather briefing systems which they could use instead of flight service station services in order to minimize your workload?

Mr. POZESKY. Mr. Chairman, we have not taken any direct action on DUATS per se. We talked earlier about IVRS, the Interim Voice Response System, which is the FAA equivalent of that. And we have publicized that. We have put out brochures, et cetera. There are certain states that do offer DUATS capability, and those have been publicized as well as the capability provided by the private vendors.

Mr. LEHMAN. Have you taken any actions to review these commercial DUATS system's adequacy for preflight weather briefings, such as the system run by the State of Minnesota?

Mr. POZESKY. Yes, we have, Mr. Chairman, and I want to say that while we don't have our official proposal approved yet, but we are very impressed by these capabilities. We are moving in the direction to take substantial advantage of those.

Mr. LEHMAN. What is the status of your plan to permit the automatic filing of flight plans by DUATS vendors? When will this service be available to users of vendor services?

[The information follows:]

The FAA has agreed to provide access to the vendors for flight plan filing when the NADIN System is commissioned. The NADIN system is scheduled to be commissioned later this year.

Mr. LEHMAN. Does the suspended Model 2 contract contain provisions for the development of a DUATS?

[The information follows:]

The current Model 2 contract does contain provisions for the development of a DUAT System, however, the FAA now is proposing to utilize existing private sector technology to provide DUAT services.

IG REPORT ON MODEL 2

Mr. LEHMAN. Does the Inspector General oppose funding Model 2 development of both DUATS and weather graphics? If so, why and what is your reply?

[The information follows:]

The Department of Transportation Inspector General does oppose funding for the development of DUATS and weather graphics as part of Model 2 and believes that the FAA can reduce the cost and schedule risks of the Model 2 contract if we utilize existing technology from the private sector to provide DUATS and weather graphics. After careful evaluation of the issues regarding DUATS and weather graphics, the FAA has decided to propose use of existing technology to satisfy the requirements for DUATS and weather graphics.

Mr. LEHMAN. Since weather graphs and DUATS can be independently added to flight service stations now, what is left for Model 2 to do?

[The information follows:]

The baseline Model 2 System must provide centralized receiving, processing, editing, distribution, maintenance and archiving of alphanumeric weather messages including national base maintenance.

Sixty enhanced or new capabilities are made available to the specialist to improve and expedite services to the user and to reduce editing tasks.

DUATS OPTIONS REPORT

Mr. LEHMAN. When is your final DUATS Options report expected to be complete, and to what extent do you intend to change your draft report?

Mr. POZESKY. The draft report is going to be changed radically. The final report to Congress is working its way through the FAA into the Office of the Secretary. We hope to have it on the Hill in the near future. It may have actually left the FAA by now.

Mr. LEHMAN. The DUATS study team analysis did not consider the option of repackaging Model 2 DUATS to accelerate its implementation. However, the draft report referred to the DUATS study team analysis as support for the option. Please clarify this.

[The information follows:]

The DUATS study team did consider a repackaging of the DUATS within the Model 2 System. Although the draft report supported the repackaging of the DUATS requirements, the FAA has reevaluated the DUATS issues and has decided to propose use of commercially available DUATS to satisfy our requirements.

Mr. LEHMAN. What is the difference in the amount on money which could be saved and redirected between canceling all of Model 2 and canceling only Model 2 DUATS?

[The information follows:]

Approximately $2 million of F&E funds will be saved if we use existing private sector technology to satisfy our requirements for DUATS. No money would be saved for the yearly operating costs for a DUAT system. Although between $50-60 million of F&E funds could be saved if the Model 2 program were canceled, it would result in higher overall costs to the FAA.

The FAA would never be able to realize the benefits to be gained from full automation and consolidation if the Model 2 program were canceled. A Model 2 cancellation would require the FAA to continue to staff and operate a highly labor intensive and decentralized system of over 200 FSS's.

COMMERCIAL DUATS

Mr. LEHMAN. How do you respond to the commercial vendors' criticism that their DUATS were not properly evaluated? Do you plan to reevaluate the vendors' systems?

[The information follows:]

The DUAT study team evaluated the capabilities and published costs of six vendors presently providing DUAT services. Based on the study team findings and information gathered since their evaluation was completed, the FAA has decided to propose use of commercially available DUAT systems to satisfy its requirements and will continue to evaluate commercial systems as they become available.

Mr. LEHMAN. Can private vendor DUATS currently meet or exceed Model 2 DUATS Operational requirements?

[The information follows:]

The DUAT study team found that none of the vendors meet every requirement specified for DUATS in the Model 2 specification. Some of the vendors, however, do appear to meet the most basic operational requirements.

DUATS AVAILABILITY

Mr. LEHMAN. Although availability was cited as the most critical factor in deciding which DUATS option to choose, did the essential differences between the study team's estimates of each option's availability rest on differing procurement assumptions or technology?

[The information follows:]

The DUAT study team did consider availability of services to be the most critical factor in deciding which option to choose, but in determining the availability of each option the study team applied consistent procurement assumptions. Since the various technologies are similar, it was not a major factor in the selection process.

TERMINAL AUTOMATION

Mr. LEHMAN. On page 33, would you provide for the record the major items for which you are proposing to spend $8,123,000 during the next five years?

[The information follows:]

A mid-May contract award is planned for a study to provide data on terminal automation system supportability, maintainability, reliability and capacity to satisfy operational requirements until the completion of their scheduled replacement by ACF's in 1998.

The results of this study in conjunction with the ACF implementation schedule will dictate what course of action, if any, must be taken. Should the course of action dictate replacement/addition of hardware and/or software, an extensive development effort may be required to develop required prototype software and instruction compatible hardware. Extensive test and evaluation would also be required prior to entering a production phase.

HUMAN FACTORS/ADVANCED TECHNOLOGY

Mr. LEHMAN. On pages 34 through 47 you are requesting $1,705,000 for advanced technology, computer science applications and human factors. What has been the most significant accomplishment in each of these areas during the past year?

[The information follows:]

In the Advanced Technology area, a comprehensive assessment of satellite technology was recently completed to support the ATC surveillance function. This four-volume report from Jet Propulsion Laboratory indicates that such a satellite system is within the capabilities of today's technology but its cost may be prohibitive at approximately $600 million for continental United States coverage.

In the Computer Science area, MIT Lincoln Labs has demonstrated the ability of artificial intelligence technology to reliably detect microburst precursors in Doppler weather radar data. This is an important advance in the FAA program to provide reliable and timely detection of microbursts in the airport environment.

And lastly, in the Human Factors area, a single pilot subjective workload assessment technique has recently been validated in NASA cockpit simulators. This technique provides a means for improved workload impact assessments with respect to NAS developments that affect crew duties and workload.

WAKE VORTEX RESEARCH

Mr. **Lehman**. With regard to wake vortex research last year it was indicated that you still had two major technical areas with no solutions, vortex alleviation and vortex sensor development. What progress have you and NASA made regarding these problems?

[The information follows:]

The wake vortex problem has the same two very difficult unresolved technical problem areas, vortex alleviation and an economical detection sensor. NASA Langley is assessing a technique for early detection of aircraft penetration of vortices using sensors on the aircraft. This investigation is in an early analytical stage. Even though we make some progress each year in characterizing the vortex from different aircraft types, mostly with helicopters this past year, we still do not have an answer. For the near term, our plans are to continue studies on spacing reduction due to procedural changes, and to identify whether there are weather factors that might permit closer spacing.

Mr. **Lehman**. Would you update for the record the table on wake vortex research that was included on page 669 of last year's hearing record?

[The information follows:]

Cost of Wake Vortex Research and Development

[In thousands of dollars]

National Aeronautics and Space Administration:	
Estimated obligations, fiscal year 1970-85	$11,123
Planned obligations:	
Fiscal year 1986	340
Fiscal year 1987	275
Total through fiscal year 1987	11,738
Federal Aviation Administration:	
Actual obligations, fiscal years 1970-85	20,504
Planned obligations:	
Fiscal year 1986	486
Fiscal year 1987	520
Total through fiscal year 1987	21,510

SUPPORT

Mr. **Lehman**. On page 39, would you indicate for the record who will be the major recipients of your fiscal year 1986 support appropriation of $4,297,000?

[The information follows:]

The major recipients of the $4,297,000 will be various small firms in response to Public Law 97-219, Small Business Innovation Development Act of 1982, and NASA, for simulation and program support efforts.

HOST COMPUTER RESEARCH

Mr. **Lehman**. We have already discussed your advanced automation program. On page 42, why will you still require $1,372,000 for Host computer research in fiscal year 1987?

Mr. **Blake**. This allows us to have the development team to continue with the program monitor system test in the early stages of introduction of that system.

NAVIGATION

Mr. LEHMAN. Turn to navigation. Last year we pointed out that about 10 years ago this Committee's investigative staff issued a report identifying the potentially duplicative navigation systems in operation and under development. That same year the Office of Telecommunications Policy reported that there was substantial overlap and unnecessary redundancy and that the cost of the government's navigation systems could be reduced by at least 40 percent.

In 1979 our investigative staff again pointed out that the "parochial interests" of the Department of Transportation continue to present a barrier to reducing the present wasteful mix of duplicative systems. Do you have any intention or interest in eliminating some of the unnecessary redundancy in navigation systems that was referred to by the Office of Telecommunications Policy 10 years ago?

Mr. BLAKE. That original report had a very comprehensive list of navigation systems and surveillance systems, some of which were only proposals. I think our statement would be that DOT-FAA support the goal of eliminating unneeded systems. However, we do not believe that there is any unnecessary redundancy in aviation radio navigation systems today.

As you now, our international standard for short-range navigation is VORDME. Because of the nature of the signals, we don't get complete coverage, and because of that, we have certified Loran C as a supplemental navigational system in some areas, and Omega VLF has been selected by some users for use in the oceanic and high-altitude areas. And of course self-contained systems such as the inertial navigation system is in widespread use.

Looking ahead a little when GPS becomes available and the civil aviation GPS issues of integrity and issues of coverage are resolved, some of the navigational aids may at that time become unnecessary. As you know, the FAA is working closely with the rest of DOT and the Department of Defense to establish the federal policy for radio navigation, and for insuring that there is no unnecessary redundancy in our future system.

This policy and the plan for radio navigation systems and the future radio navigation system mix are contained in the Federal Radio Navigation Plan, which was last updated in 1984 and will be updated again in 1986, so I think we are being totally responsive to that guidance.

Mr. COUGHLIN. I thought GPS was available now?

Mr. BLAKE. There are six satellites up in the research and development mode that give four- to six-hour coverage in different areas during the day, but we will not have a complete system I guess now until the early 1990s.

Mr. COUGHLIN. Is that due to the shuttle loss?

Mr. BLAKE. Yes. There are a number of discussions going on to deploy a number of satellites, perhaps 12, by the 1995 period, and then to gradually add the others as they can. The other option being looked at is should they modify these satellites for launch on other types of vehicles, and that is a fairly large cost being implied by that. So we are like the other government agencies, watching the development.

Mr. COUGHLIN. Thank you, Mr. Chairman.

MLS RESEARCH

Mr. LEHMAN. Last year you indicated that your MLS research was related to curved and segmented approaches and you are requesting an additional $999,000 for this research in fiscal year 1987. How will the results of this research be incorporated into the 12 microwave landing systems you plan to commission in fiscal year 1987 (OPS—17) and at what cost?

[The information follows:]

Research in MLS curved and segmented approaches primarily addresses the following areas: certification criteria for cockpit displays and controls, obstruction clearance criteria, and simulator validation of aircrew and air traffic control procedures. The results of this research affect airborne equipment and operational procedures. They do not affect the ground systems, which are inherently capable of supporting curved and segmented approaches as installed.

Mr. LEHMAN. Last year it was indicated that your design and operation guidelines for flight crew navigation control/display units would be completed this year. What is the status of that work?

[The information follows:]

A database of existing units is being compiled for baseline analysis. The guidelines will be developed and supplied to selected regional certification offices by December for a period of field testing, prior to publication of the final version.

WIND SHEAR

Mr. LEHMAN. On pages 51 and 52 you are requesting $1,056,000 for the development of an airborne wind shear detection and avoidance system and you state that this will be a five-year cooperative effort with NASA. In view of the seriousness of the wind shear problem, why are you planning to spend five years developing a system?

Mr. BLAKE. It is a difficult technical problem is the short answer. Detection of wind shear using airborne radar and lidar systems require solution of a number of difficult technical problems. Airborne radar units are limited in antenna size and power and have to operate in a very high clutter environment.

Our five-year program is to look at a number of areas and to determine the degree of improvement that can be made in airborne doppler weather radar's ability to detect weather microbursts, also to evaluate the effectiveness of doppler lidar devices in detecting dry microbursts, to look at improvement in windborne detection and guidance systems, and depending on the level of success in those efforts, to look at the possible future integration of the improved detection system with the improved guidance system.

Although the program will run five years, members of industry that manufacture this type of avionics are participating with us in the effort, and they receive data from the program as it is developed and can use it in improving their system.

Mr. LEHMAN. Your total estimated cost share of this program is less than $7 million. Could this development be expedited with additional funds?

Mr. BLAKE. I think we placed the appropriate priority on this program and that the funds requested for 1987 will be adequate.

Mr. LEHMAN. Could it be expedited with additional funds?

Mr. BLAKE. I believe not. We have funded it at the optimal record.

AVIATION WEATHER RESEARCH

Mr. LEHMAN. On page 53 you are requesting $6.77 million for aviation weather research. What is the most significant improvement you have made during the past year in the acquisition, processing and dissemination of aviation weather information?

[The information follows:]

In 1985/1986, lightning detectors were procured and installed and are undergoing evaluation as potential thunderstorm detectors for the Automated Weather Observing System (AWOS). Successful demonstration of this capability will permit the timely and automatic distribution of thunderstorm warnings to pilots approaching and departing airports equipped with AWOS. In 1985, various algorithms designed for the reliable detection of wind shears created by microbursts were developed and evaluated by computer simulation. The most effective of these algorithms will be evaluated in field tests at two airports in the summer of 1986.

NEXRAD PROGRAMS

Mr. LEHMAN. We have already discussed your central weather processor and NEXRAD programs. When do you expect to have an operational terminal doppler radar developed? Can this also be expedited with additional funds?

Mr. BLAKE. The terminal NEXRAD will be operational in the 1989–1991 time period, and we have planning underway on a possible follow-on competitive procurement which could start introducing additional radar starting in 1992. The funding for the terminal NEXRAD is sufficient, and we will be addressing the question for the follow-on procurement in the 1988 budget submission.

Mr. LEHMAN. Again, with more funds could you do better?

Mr. BLAKE. We have adequate funds for the terminal NEXRAD.

Mr. LEHMAN. As much as you can use efficiently.

You state that initial operational capability will be achieved using NEXRAD systems modified for terminal use. How extensive will these modifications be and will both of your 1986 design studies involve modified NEXRAD systems?

Mr. BLAKE. There will be essentially no hardware modifications for the NEXRAD systems used in the terminal areas. There will be a different scanning strategy tailored to the microburst problem which will give us an update right in the one- to two-minute range, and the software package will be the one that we are currently developing and testing in Huntsville. Yes, both of the 1986 design studies are for a terminal NEXRAD.

Mr. LEHMAN. On page 33 you refer to optimized terminal doppler radar. Is this the same as the modified NEXRAD referred to under research and development on page 57? If not, would you explain the difference.

Mr. BLAKE. I assume it is. We have only the two versions, the en route NEXRAD which is the network we are buying with Weather Service, Defense, and the terminal variant of that.

Mr. LEHMAN. Would you check on what your justification says so you can change that assumption to an up and down answer?

Mr. BLAKE. We will review the wording, yes, and comment on it for the record.

[The information follows:]

The difference between the two references is as follows:

FY 87 F&E request p. 33—"optimized terminal doppler weather radar" refers to a future proposed procurement, which is not included in the FY 87 budget request, for "C" band terminal doppler radars specifically designed for microburst, detection.

FY 87 RE&D request p. 57—"NEXRAD systems modified for terminal use" refers to the FY 87 F&E request on p. 33 for 14 operational + 1 support systems. These systems are "S" band NEXRAD radars that will be modified by the contractor to permit detection of microburst phenomenas.

HAZARDOUS WEATHER DISPLAY

Mr. LEHMAN. On page 59 you refer to developing techniques for display of hazardous weather to air traffic controllers. However, according to the GAO survey about 20 percent of your controllers often decline to provide weather advisories and an additional 34 percent occasionally do not provide weather advisories. What is the reason for this and to what extent are controllers required or expected to provide weather advisories?

[The information follows:]

The FAA's policy on issuing weather and traffic advisories is as follows: The controller's first duty priority is separating aircraft and issuing safety alerts to aircraft in unsafe proximity to terrain, obstructions, and other aircraft. Traffic advisories are issued to all aircraft on a controller's frequency if in the controller's judgment the aircraft separation may diminish to less than established separation minima and at other times when controller workload, volume of traffic, frequency congestion and other variables permit. Weather information is disseminated as soon as feasible when the higher priority of separating aircraft is satisfied. Controllers issue all pertinent weather information as soon as practical after receipt of said information. There may be instances where this does not occur, but this should be on rare occasions. Without specific incidences, its hard to determine how a situation develops.

It is virtually impossible to develop a standard list of duty priorities that would apply uniformly to every conceivable situation because of the enormous amount of variables involved. Each set of circumstances must be evaluated on its own merit, and when more than one action is required, the controller exercises his/her best judgment based on the facts and circumstances known. That action which is most critical from a safety standpoint is performed first.

AVIATION MEDICINE RESEARCH

Mr. LEHMAN. You are requesting $3,767,000 for aviation medicine research. What was your most significant accomplishment in this area during the past year?

Mr. BRODERICK. Mr. Chairman, I think we were able to take a lot of research that was done in past year and put it together and make a significant contribution to the package of seat-strength standards which covered both large and small aircraft as well as rotorcraft that was all put together this past summer. That is a significant move forward, I believe.

Mr. LEHMAN. To what extent have your toxicology tests indicated an increasing presence of drugs in pilots involved in fatal accidents?

Mr. BRODERICK. We believe this year there were six illicit and 10 cases of licit drugs being found in pilot remains out of a total of 400 cases. That is an increase over last year, but we believe the increase is due to improvements in the instrumentation and detection methodology rather than an actual increase in incidence.

ALCOHOL RELATED ACCIDENTS

Mr. LEHMAN. Would you update for the record the information on alcohol-related accidents which was included on page 679 of last year's hearing?

[The information follows:]

ALCOHOL FINDINGS IN PILOTS
5853 FATAL GENERAL AVIATION ACCIDENTS
CALENDER YEARS 1968-1985

YEAR	1968 to 1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	TOTAL
CASE	458	214	264	292	319	310	377	394	410	388	384	431	389	412	399	412	5853
ALCOHOL ABOVE .04%	50	27	19	18	36	20	33	34	34	22	25	28	27	29	19	20	441
PERCENT	10.9	12.6	7.1	6.1	11.2	6.4	8.7	8.6	8.3	5.7	6.5	6.5	6.9	7.0	4.8	4.9	7.5

Alcohol from fermentation has been ruled out in the above cases.

MEDICAL RESEARCH FUNDING

Mr. **Lehman**. Would you indicate for the record how much of this amount is for administrative support at the Civil Aeromedical Institute?

[The information follows:]

An estimated $236,200 is programmed for administrative support at the Civil Aeromedical Institute.

SCREENING TESTS FOR CONTROLLERS AND INSPECTORS

Mr. **Lehman**. On page 65 you indicate that one of your aviation medicine research activities involves developing and evaluating the screening tests for controllers and inspectors. What modifications have you proposed in this area during the past year as a result of your research?

[The information follows:]

A new four-part test, a modification of the Multiplex Controller Aptitude Test, introduced following the Professional Air Traffic Controller Organization strike, became operational with the Fall 1985 testing of air traffic controller applicants. This and other changes were introduced to improve the system for selecting applicants who have a high potential for success. Based on the FAA Civil Aeromedical Institute statistical analyses, a new screening training program was developed and implemented for students entering the FAA Academy since October 1985. Performance in this course is the determiner of eligibility to enter terminal or enroute training. Work on new tests and procedures for the screening of aviation safety inspectors has just been initiated.

SEAT RESTRAINT SYSTEMS RESEARCH

Mr. **Lehman**. As you indicated last year, you have done quite a lot of research on seat and restraint systems. What improvements can you tell us about as a result of that research?

Mr. **Broderick**. We have put together a whole series of regulatory packages and advisory material which is just now receiving final review and approval, Mr. Chairman, which sets a new conceptual standard for aircraft seats and occupant restraint systems, which should significantly improve occupant survivability, and provide dynamic as well as static testing for the first time.

Mr. **Lehman**. On page 70, would you indicate for the record the objective, estimated cost and time frame for completion of each of the four items listed?

[The information follows:]

4044

HUMAN PERFORMANCE RESEARCH

System Research: Control and Display Requirement - Advanced Automation/Simulators and their Application..........$183,000

The introduction of highly automated equipment is expected to impose different performance requirements upon the air traffic control specialists. Tasks are expected to involve more monitoring of computer-controlled traffic flows, with less human-directed control of targets. This research is intended to examine the specific human performance requirements of proposed equipment and system designs. The project should provide data that will assist in the initial design and modification of proposed displays and controls to reduce fatigue, and the establishment of specialized training programs to improve scanning skills of operators. This initial phase of the project should be completed by September 1987.

Operational Error: Air Traffic Controller, Aircrew, Sensation, Perception, Judgment..............................$110,000

Pilot and controller errors continue to be the chief causes of aviation mishaps. This research will help identify underlying causes of operational errors, physiological factors such as age, perceptual factors such as color vision deficiencies, and training and procedural factors such as coordination and communication. A computerized data base is being established with the first phase focusing on surface errors, their causes, and solutions. This will be a continuing effort, and the initial phase should be completed by September 1987.

Stresses: Within Man, the System and Job, Environment, Fatigue, Shift Work, Radiation, Occupational Health...........$135,000

Research efforts to correlate the effects of various stressors associated with the aviation environment will continue. For instance, the project will examine the effects of different shift rotation policies on air traffic controllers' performance and morale. Data collection will begin in July 1987 and the final report will be issued in October 1988. The report should help FAA management to optimize agency shift work policies.

Occupational Health..$106,000

The effects of factors such as ionizing and microwave radiation on certain aviation groups will continue. Potential scores of radiation (e.g., radar, metal detectors, cosmic radiation of flight personnel on frequent long-distance flights at high latitudes and altitudes) will be studied and methods to control identified problems will be documented. Program resolutions will be described in educational materials, such as advisory circulars, regulations, and other documents as appropriate. This is a continuing task with information provided as it becomes available.

The differential effects of fatigue on the separate behaviors involved in ATC conflict detection and resolution also are being studied. A need is to determine precisely which ATCS behaviors are most affected by the visual fatigue associated with prolonged radar monitoring, so that appropriate solutions can be developed.

AIRCRAFT SAFETY

Mr. **Lehman**. You are requesting $22,445,000 for aircraft safety. What was your major accomplishment in this activity during the past year?

Mr. **Blake**. There have been a number, but regulatory support for the cabin materials test method rule is certainly one, and regulatory support on the seat-test method.

FIRE SAFETY

Mr. **Lehman**. For fire safety you are requesting $3,155,000. What is the status of your rulemaking on improved flammability standards for materials used in the interiors of transport category airplane cabins?

Mr. **Blake**. We have received all industry comments on the rule and evaluated them, and I believe the final rules are in preparation.

Mr. **Lehman**. To what extent has industry had a problem in interpreting your regulations on fire blocking seats and proximity emergency escape path marking? If there has been a problem, are you doing anything to provide for uniform interpretation of the regulations?

Mr. **Broderick**. Mr. Chairman, we had initially, when those rules were promulgated, a number of questions raised by industry. We believe we have supplied adequate guidance material and firm intentions to them to not only clear up the interpretive problems but to explain to them the seriousness with which we hold compliance dates for these regulations.

Mr. **Lehman**. What have you learned to date about the comparative effectiveness of an onboard sprinkler system versus penetrator nozzles?

Mr. **Broderick**. The activity on the sprinkler system is underway and we expect the final report to be issued in late fiscal year 1986. We have not yet started penetrating analysis of the report. We plan to do so.

Mr. **Lehman**. Last year it was indicated that you were evaluating emergency smoke ventilation. What is the status of this effort?

Mr. **Broderick**. The investigation has been broadened over the last several years. It addressed the question of minimizing the hazards of in-flight fires. The work being conducted will determine the optimum flight profiles to be used, cabin pressurization schedule, ventilation technique and rate. This work will be completed by the end of fiscal year 1988. We have some assistance here from the Air Force under an interagency agreement to perform full-scale tests of smoke venting, and we are in the process of instrumenting our 727 aircraft to measure venting during descent and landing.

PROPULSION RESEARCH

Mr. **Lehman**. In fiscal year 1986 you received about an $800,000 increase for propulsion research and you are requesting a further increase of $500,000 in this area in fiscal year 1987. What is the reason for more than a 125 percent increase in two years?

[The information follows:]

The $800,000 increase in 1986 resulted from (1) propulsion subprogram investigations being incorporated into the overall propulsion subprogram and (2) a return of the in-house manpower support to the propulsion program from other high priority efforts in 1986. In 1985, only limited manpower was available to support the propulsion subprogram due to higher priority work associated with the Full-Scale Transport Controlled Impact Demonstration and the antimisting fuel investigations.

The $500,000 increase in 1987 will support expansion of the earlier bird ingestion analysis for all classes of turbine engines.

Mr. LEHMAN. Have you issued any guidelines as a result of your bird ingestion studies?

[The information follows:]

No. The 1981 to 1983 study of bird ingestions into large high bypass ratio turbine aircraft engines has defined the threat and extent of damage to this class of engines. Efforts currently underway will extend this data base to the small and medium size turbine engines. When completed, these efforts will provide greater understanding and confidence in reevaluating bird ingestion requirements and certification criteria.

CRASHWORTHINESS RESEARCH

Mr. LEHMAN. On page 76 you are requesting $1,963,000 for crashworthiness research. What major crashworthiness regulations, advisory circulars, or proposed aircraft design changes have you promulgated during the past year as a result of your crashworthiness research?

[The information follows:]

The past year's crashworthiness research has contributed significantly to the following regulatory efforts:

DRAFT NPRM: Dynamic Performance Standards for Seats (FAR Parts 23, 25, 27 and 29).

DRAFT NPRM: Crash Resistant Fuel system (FAR Part 23 Airplanes) AC: Human Exposure to Impact.

DRAFT AC: Dynamic Evaluation of Airplane Seat Restraint Systems (All Categories).

DRAFT AC: Analytical Methods in Impact Dynamics.

Mr. LEHMAN. Would you update for the record the status of the following notices of proposed rulemaking which you referred to last year: general aviation fuel system, general aviation shoulder harness, transport seat strength and materials test?

[The information follows:]

Based on the most recent information, the status of the aforementioned regulatory issues are as follows:

1. An ANPRM addressing crash resistant fuel system in small airplanes is on hold pending receipt of comments from the General Aviation Safety Panel (GASP).
2. The NPRM amending FAR Parts 23 and 91 to require shoulder harnesses at all seat locations became a rule on December 12, 1985, and effective on all airplanes manufactured after December 12, 1986.
3. The draft NPRM addressing transport seat strength is in the Office of the Secretary, U.S. Department of Transportation.

ICING RESEARCH

Mr. LEHMAN. On page 78 you indicate that you have been working on aircraft icing for several years and you indicate that the results of this research will be used to update FAR 25 Appendix C. What have you learned to date from your icing research and what is the schedule for updating FAR 25 Appendix C?

Mr. BRODERICK. During fiscal years 1985 and 1986 the Office of Federal Coordinator for Meteorology developed a plan which is really a summary of the activities underway at NASA, Department of Commerce, National Science Foundation, National Weather Service and the FAA. To date, the data for icing in supercooled clouds below 10,000 feet has been completed, provided to the industry in the form of an advisory circular, and we will begin to work in 1987 on characterizing the icing of supercooled clouds above 10,000 feet.

I think any updating of Appendix C will probably be deferred until the icing program is complete, but data from each segment of our program will be made available in an advisory circular in similar form as that data becomes available.

LIGHTNING RESEARCH

Mr. **Lehman**. You also refer to a geographical lightning study. What are the objectives of this study? Isn't there already information available on this subject?

[The information follows:]

Lightning parameters, such as peak current, rate of rise of current, number of peak currents per lightning flash, etc., seem to depend on parameters like altitude, time of year, location, positive versus negative flashes, etc. For this reason, a correlation of all representative lightning data, which we call the geographical study of lightning, is being carried out.

Although there are many sources of lightning data available, most of the data was obtained with ground based instrumentation. Since there is great disparity in the reported values of the characteristic lightning parameters, such a peak amplitude and rate of rise of current, and airborne measurements of cloud-to-ground lightning are almost nonexistent, a study that would correlate all available and representative information was initiated.

REGULATORY DEVELOPMENT SUPPORT

Mr. **Lehman**. On pages 80 and 81 you are proposing to start a new program on regulatory development support and you indicate that you plan to spend more than $3 million a year in this area over the next five years. Would you elaborate on the reason for establishing this new activity and tell us what regulations or certification criteria you will be studying and the reasons why you selected these areas?

Mr. **Broderick**. I think this program recognizes that there will be a continuing need for regulatory support. I think that in the near term we will be looking at some of the aspects of the advance guidance systems for helicopters as a possible example, and several other related issues. So this is really a program that recognizes the continuing need for activities in this area.

Mr. **Lehman**. Amplify it for the record, please.

[The information follows:]

This program was established to address present and expected future regulatory requirements. The purpose of the program is to develop technical data guidelines and test equipment techniques and procedures in support of both ongoing and new technology development, and aircraft certification.

Specifically, the near term work will be focused on three projects which show the greatest potential to improving operations, namely: (1) post crash fire reduction, (2) rotorcraft IFR requirements, and (3) aircraft advanced controller systems.

Briefly these projects consist of the following:

1. *Post crash fire reduction:* By controlling the release of fuel and the source of ignition, this will minimize the post crash fire hazard.
2. *Rotocraft IFR requirements:* Airworthiness guidelines and safety compliance assessment for high performance approaches to heliports under instrument conditions.

3. *Advanced aircraft controller systems:* Data in support of the safety assessment process on the effect of advanced type controller systems for both aircraft and rotocraft of the new technology type.

Many of these activities are in the initial development stages and the programs are expected to lead to regulatory activities in the early 1990 time period.

AVIATION SECURITY RESEARCH

Mr. **Lehman**. On pages 82 and 83 you are requesting $12,711,000 for aviation security research. What was the most significant accomplishment in this activity during the past year?

Mr. **Blake**. In aviation security?

Mr. **Lehman**. Research.

Mr. **Blake**. I think in the 1986 time period would be the development of an advanced thermal neutron system for baggage inspection, and also cargo inspection.

Mr. **Lehman**. How satisfied are you as to the accuracy of that? You are still working on it, I suppose. I won't ask you in public what it does and what it does not detect, but apparently it doesn't detect every form of explosive.

Mr. **Blake**. I think that this system does a much better job than what we tested previously, and will perform very well.

Mr. **Lehman**. Is there anything equal in Europe, Japan or Israel that compares to your system of detection? I am just wondering whether you are reinventing the wheel or whether there is something we can borrow from someone else.

Mr. **Blake**. I think we have taken a pretty good look at what everybody has in the way of explosives detection, and trying to select out of those those that offer the best chance of providing improved capability.

Mr. **Lehman**. Last year you requested and Congress provided about a 300 percent increase in aviation security research and another increase of about $1 million is proposed for fiscal year 1987. You refer to three program areas: explosive detection systems, concourse security, and procedures for handling in-flight bombs. Would you briefly describe the explosive detection systems you are testing?

[The information follows:]

The development of explosives detection systems contained in checked baggage and air cargo will be based on the bulk physical properties and elemental composition of explosives. An experimental Thermal Neutron Activation (TNA) device had demonstrated, during actual airport testing, a low false alarm rate and high detection rate for explosive simulants in both checked baggage and cargo. The results were obtained with an experimental breadboard system that scanned bags for nitrogen profiles of explosives, but the average screening time was unacceptably long (25-30 seconds) for an operationally deployed system. Our current accelerated development effort provides for two competitive design studies for a system with a radioisotopic source and two competitive design studies for a system with an electronic generator. At the completion of the design phase, the FAA will make the decision to build from one to as many as four TNA systems which would be available for airport testing late next spring.

Vapor detection is the only known approach for screening people for explosives. Prior FAA sponsored research has led to the selection of a chemiluminescence approach for development of an explosive vapor prototype detector. The chemiluminescent approach relies on two facts: (1) explosive vapors are "sticky" and adhere to metal surfaces much more efficiently than other effluents, and (2) explosive vapors can be decomposed into nitric oxide and other compounds. In a chemiluminescent reaction, nitric oxide produced by decomposition is mixed with ozone and reacts indicating the presence of explosives. While the effort has a somewhat higher risk than the TNA project and it is unlikely that any vapor approach can result in a "universal" explosives detector, the chemiluminescent approach does seem likely to be effective for a wide range of explosives. Accelerated development of screening portal and airport operational testing is not scheduled for mid-1988. The development of the chemiluminescent detector itself has been compressed from 18 to 9 months and should be completed early this summer.

CONCOURSE SECURITY

Mr. LEHMAN. Would you also elaborate for the record on how additional research will assist you in concourse security and handling in-flight bombs?

[The information follows:]

The FAA has initiated a feasibility study on the detection of gasoline filled containers concealed on passengers. The detection problem is complicated by the low rate of evolution of gasoline vapors from reasonably closed containers and by the high concentration of hydrocarbons found in the airport environment. A highly sensitive and selective vapor detector, the tandem mass spectrometer, is considered the only candidate instrument at this time. A tandem mass spectrometer is being developed and efforts are underway to integrate this detector into a screening portal. If the results of the feasibility study are positive, a portal system to screen for concealed gasoline containers can be rapidly developed by virtue of the on-going program.

The FAA has evaluated proposals received in response to a solicitation for a feasibility study on development of an improved metal detector able to distinguish firearms from benign metallic objects and has initiated a design concept study. A competitive solicitation for new concepts in weapons detection is currently being advertised. If successful, this effort will be carried into a prototype development phase.

An additional effort to provide computer assistance to the operators of concourse X-ray systems will be initiated. Pattern recognition software able to analyze X-ray images and alert the operator to the presence and location of suspicious objects in carry-on baggage will be developed. With the availability of high speed mircroprocessors, it is envisioned that such a system could be effective and operated at low cost, while not impacting the flow of passengers.

The in-flight bomb response program will develop and validate procedures for flight crew to use in dealing with an explosive device to prevent its functioning and/or the destruction of the aircraft. Various aircraft structures will be analyzed in an effort to predict structural responses to on-board explosions. Actual explosive tests will then be conducted for purposes of validating these analytical studies in both pressurized and non-pressurized hulls. Techniques for handling suspected bombs and incendiary devices and limiting damage will then be developed and evaluated for operational effectiveness.

Mr. LEHMAN. You referred to three program areas: explosive detection systems, concourse security and procedures for handling in-flight bombs. Have you developed specific multi-year program objectives in each of these three major areas? If so, would you briefly describe them now and elaborate, to the extent you can, for the record on each area.

Mr. BLAKE. Yes. In the explosive detection system, the advance neutron detection system for baggage and cargo inspection, explosive vapor detection system which would be incorporated in the portal system here, addressing the question of explosives that are carried on in person, and advance technology investigations which include combined X-ray and thermal neutron systems, dual energy X-ray, computerized tomography, fast neutron scattering, spectrometry and high-energy X-ray systems.

We have the nearer-term things, and then we are looking at the newer technology ideas. We are still looking for better capability. And the in-flight bomb work is continuing to look at the best method of handling bombs on some of the newer aircraft that have come into the fleet in the last several years.

CARRY-ON BAGGAGE

Mr. **Lehman**. I just wondered if a person was caught trying to walk through a security position with a false-bottom bag with some explosives in there, who is there to arrest him? Are there armed guards?

Mr. **Broderick**. If there is not an armed guard at the site, Mr. Chairman, there has to be an approved plan to get an armed guard to that particular location, through a silent alarm system or whatever. Generally, the response time depends on the size of the airport, but generally it is less than a minute for the kinds of airports that we are talking about, the large ones.

Mr. **Lehman**. Do you have any plans to improve that?

Mr. **Broderick**. What we have is really not a question of whether or not we think the police should be there, because in fact they are at the airport. The question is do we want to keep them at one specific location or do we want to use them and make them visible throughout the airport. We think that there is a balance that needs to be struck that we keep reviewing all the time, but really that time limit is not to cut down on the number of police so much as to show, if you will, their visibility throughout the airport.

Mr. **Lehman**. Suppose a person walks through Washington National Airport with a carryon small bag and left it in the unattended area. I wonder how many hours it would stay there before somebody would question what that bag was doing there?

Mr. **Broderick**. With today's sensitivity to the necessity to look at unattended packages, and as we have seen at National Airport in the last couple of weeks with a couple of incidents that have happened, I am confident the general public is alert to that kind of thing. Now, of course, depending on when somebody notices it, it could go for several minutes or even more.

Mr. **Lehman**. Several minutes?

Mr. **Broderick**. Well, it depends on when somebody notices that there is an unattended package there.

Mr. **Lehman**. You are constantly checking the carryon luggage. Why don't you have some of your people check on people with unattended packages in an area to see how long it takes for somebody to turn it in?

Mr. **Broderick**. That is an interesting thought.

Mr. **Lehman**. I know when we were in Brussels there were two or three unattended bags at the top of the steps and they were there for maybe a little over a minute before they had two or three detectives around them. The person that had left them went down the steps to tell his co-travelers where he was. By the time he got back to the top of the steps, somebody was checking on those bags. I don't think that has happened in this country yet.

Mr. **Broderick**. I don't think the general public is as attuned to that or has been in the past.

AIRCRAFT NOISE

Mr. **Lehman**. It wasn't the general public, it was airport security.

On page 86 you are requesting $1.35 million for aircraft noise. What specific aircraft nosie standards is this research directed toward?

Mr. McDaniel. Mr. Chairman, it is directed toward the development of a helicopter noise standard, propeller-driven noise standards, and propeller-driven aircraft noise standards, and improvement of our Part 150 integrated noise model. I will be happy to provide specific details for the record.

[The information follows:]

Development and issuance of a final noise standard for civil helicopters (NPRM issued in March 1986);

Development and issuance of a proposed regulation to accelerate modernization of the civil aircraft fleet and accelerated changeover to an all-Stage-3 fleet (Report to Congress, "Alternatives Available to Accelerate Commercial Aircraft Fleet Modernization" submitted to H.R. Appropriations Committee on April 11, 1986, and possible Committee direction as the result);

Development and issuance of a revised noise standard for small propeller-driven aircraft, following anticipated similar action by ICAO in June 1986;

Continued improvement and support of Integrated Noise Model (INM) for required use as part of Part 150 Airport Noise Compatibility Studies; Expansion of Integrated Noise Model to include helicopter noise exposure, and revision of Part 150 regulation to include heliports.

Mr. Lehman. What further reductions in aircraft noise to you believe are achievable with additional research? What are the chances, for example, that the resistance to new airport construction can be overcome by additional noise research?

[The information follows:]

Current aircraft airframe/engine designs and fabrication utilize the best available state-of-the-art in noise reduction. No significant advance in aircraft noise reduction is foreseen in the near future, and a major influx of research funding would be required to achieve any advances. The best means to reduce airport noise exposure is the rapid conversion to an all-Stage-3 fleet, but noise problems around airports will remain and resistance to new airports will continue.

NOISE REDUCTION RESEARCH

Mr. Lehman. Is NASA still spending funds on noise reduction research? If so, how much and in what areas?

[The information follows:]

NASA has reduced its funding for airplane noise research drastically. Only major funding remaining is that for joint NASA/FAA/Industry National Rotorcraft Noise Reduction Program. This has been funded at a level of about $1.5 million in each of the past two years. NASA's requested funding for FY 1987 is not known.

AIRCRAFT ENGINE EMISSIONS RESEARCH

Mr. Lehman. On page 87 you are requesting $250,000 for aircraft engine emissions research. Last year it was indicated that you were evaluating the effectiveness of ERPA's 1983 standards. Have you determined whether any revisions are warranted to these standards?

Mr. McDaniel. Yes, we think some technical revisions are appropriate, Mr. Chairman, which we have under evaluation at the present time. We also concluded that aircraft engine emissions were not the major pollution contributor to the problem of urban pollution.

Mr. Lehman. Mr. Coughlin.

Mr. Coughlin. No questions, Mr. Chairman.

F&E/RE&D FUNDS

Mr. LEHMAN. Would you provide for the record a list of all projects for which you are requesting F&E and RE&D funds simultaneously, including the amount in each category and why you require F&E funds before your RE&D work is completed?

[The information follows:]

[In millions of dollars]

Program	RE&D	F&E
NEXRAD Weather Radar	$2.2	$31.9
RE&D is for testing software; F&E is FAAs share of a limited production of 10 systems.		
Terminal NEXRAD Weather Radar	2.3	65.5
RE&D for testing of software; F&E is for procurement of 15 systems.		
Central Weather Processor	1.1	20.6
RE&D is for in-house efforts related to software development, interface definitions and testing; F&E is for development of production prototype software.		
Host Computer System	1.4	18.3
RE&D is for Development Team participation in testing activities; F&E is for first-year contract maintenance and testing and engineering support at field sites.		
Advanced Automation System	21.5	72.1
RE&D is for system design efforts, technical support and FAA in-house requirements; F&E is for the Design Competition Phase and architectural engineering and design at field sites.		
Flight Service Station (FSS) Modernization	1.5	44.8
RE&D is for development of direct user access enhancement packages, F&E is for Model II software, equipping automated FSSs and Consolidations.		
Microwave Landing System (MLS)	1.0	43.0
RE&D is for work on segmented and curved displays; F&E is for procurement of 56 systems.		

LOAN GUARANTEE DEFAULTS

Mr. LEHMAN. You are requesting a fiscal year 1986 supplemental of $13,516,000 together with interest payments estimated to be $1,300,000 for the settlement of an aircraft purchase loan default. Which carrier or carriers defaulted, and did these defaults result from carrier bankruptcies?

[The information follows:]

The requested FY 1986 supplemental was caused by one settlement. Cascade defaulted and went into Chapter 11 bankruptcy. Cascade's long-standing financial difficulties, and not the bankruptcy filing per se, caused the default.

Mr. LEHMAN. Have you been able to dispose of the aircraft? If so, how much did you receive and, if not, do you anticipate being able to dispose of them?

[The information follows:]

We have not disposed of the Cascade aircraft, but we are now accepting bids for them and will continue to do so until June 6. The U.S. Army has also expressed an interest in having the aircraft transferred to them.

TOTAL GUARANTEED LOANS AND DEFAULTS

Mr. **Lehman**. Would you indicate for the record the total amount of loans guaranteed under this program and the total amount paid for defaulted loans?

[The information follows:]

The FAA guaranteed $924 million in loans and has paid $169 million for defaulted loans.

RECOVERIES

Mr. **Lehman**. Would you also provide for the record the total amount you have recovered from the sale of the aircraft you have taken over under this program?

[The information follows:]

The FAA has received $87.3 million from the sale of aircraft which together with other collateral sales and actions have resulted in $106 million recovery overall.

ST. CROIX HOUSING/MAINTENANCE PROBLEMS

Mr. **Lehman**. We understand that maintenance at government-provided housing for FAA employees at St. Croix, Virgin Islands, has been unsatisfactory to certain FAA employees. Would you elaborate on the quality of housing provided at St. Croix and explain what maintenance problems you are having.

[The information follows:]

With respect to the quality of the housing and maintenance at St. Croix, the resident Coast Guard commander and the FAA air traffic manager indicated that both were satisfactory, based on first-hand knowledge and input from their employees. In regard to maintenance problems, eleven complaints were registered from November 15, 1985, through February 21, 1986. All complaints were minor in nature, i.e., toilet flush handle rusted, door locks not working, front door screens needing repair, etc., and all have been corrected satisfactorily to my knowledge.

Mr. **Lehman**. Please provide for the record a breakdown of maintenance obligations for governent-provided housing at St. Croix for fiscal years 1984, 1985, 1986 and 1987.

[The information follows:]

Fiscal Year	*Obligation*
1984	$42,081
1985	43,233
1986	[1] 35,000
1987	[2] 48,000

[1] Estimated.

RE&D FUNDS FOR BARRY UNIVERSITY

Mr. **Lehman**. Please also provide for the record a detailed status report of research, engineering and development funding provided in fiscal year 1986 for Barry University, the University of North Dakota, and Wichita State University. Please include a breakdown of obligations to date, planned obligations, and future funding requirements.

[The information follows:]

	Univ. of N. Dakota	Wichita University	Barry University
FY 1986 Obligations to Date	0	0	0
FY 1986 Planned Obligations	2,905,000	1,914,000	1,914,000
Future Year Funding FY 1987	950,000	0	0

Funding requirements for years beyond FY 87 will be finalized after trust fund legislation levels are approved.

SHORT-DUCT DC-8'S

Mr. **Lehman**. Please supply for the record:

The number of operational short-duct DC-8s remaining in the U.S. and abroad;

The number of short-duct DC-8s for which noise exemptions have been sought by U.S. or foreign carriers;

The number of airlines affected by the lack of certificated hush kits for short-duct DC-8s, and the name, number of affected aircraft (either owned or leased) and the nationality of each such airline; and

A description of the operation and/or configuration characteristics of the short-duct DC-8s that make their continued operation desirable.

[The information follows:]

Question. Please supply for the record the number of operational short duct DC-8s remaining in the U.S. and abroad:

Answer. As of February, 1986, there were 111 DC-8 Series 50 and 31 DC-8 Series 61 aircraft in the world fleet inventory. This includes an estimated 60 of both series which are currently in storage and not operating. These aircraft are commonly known as the "short-duct" DC-8 models, because of the shape of the nacelles installed on the P&W JT3D engines. Of these aircraft, U.S. operators had four DC-8 Series 50 and two DC-8 Series 61 aircraft.

Question. The number of short-duct DC-8s for which noise exemptions have been sought by U.S. or foreign carriers;

Answer. Prior to January 1, 1985, four U.S. operators and 15 foreign operators petitioned for exemptions from the aircraft noise compliance regulation for 50 DC-8 Series 50 and Series 61 aircraft. Subsequent to the action by the U.S. Court of Appeals, D.C. Circuit, which remanded many actions on these petitions to FAA for reconsideration, only three U.S. and eight foreign operators again petitioned for exemptions for 25 aircraft. Of these, two U.S. and five foreign operators were granted limited exemptions for 14 aircraft, until December 31, 1985.

Question. The number of airlines affected by the lack of certificated hush kits for short-duct DC-8s and the name, number of affected aircraft (either owned or leased) and the nationality of each such airline:

Answer. The following operators used DC-8 Series 50 and Series 61 aircraft into U.S. airports during 1985, under FAA exemptions, but are now prevented from doing so because of the absence of a certified "hush kit" for these aircraft: Airlift International (USA) 1 DC-8-54 and 2 DC-8-61; Trans Global (USA) 2 DC-8-55;, ARCA (Colombia) 2 DC-8-54; LACSA (Costa Rica) 1 DC-8-55F; Aeromar (Dominican Republic) 4 DC-8-54; AECA (Ecuador) 1 DC-8-54; and LAC (Colombia) 1 DC-8-54F.

AECA and LAC currently have FAA exemptions to operate Boeing 707-300 aircraft, for which certified "hush kits" are available.

Question. A description of the operation and/or configuration characteristics of the short/duct DC-8s that make their continued operation desirable.

Answer. The Douglas DC-8 Series 50 an Series 61 aircraft represent the first generation of long-range transport aircraft using turbofan engines (Pratt & Whitney JT3D models). Their only desirable characteristics in today's operations are that they are cheap to acquire because of their age, and are suitable for use on "long, thin" air routes. The Series 50 models were first certificated by FAA in May 1961, and the last aircraft of that series was delivered in November 1968. The Series 61 model was certificated in September 1966, and the last one was delivered in March

1971. Thus, the newest Series 50 airplane is over 17 years [illegible] while the newest Series 61 airplane is over 15 years old.

Both models represent old technology, using low-bypass-ratio engines which are quite fuel-inefficient. These aircraft are costly to operate and maintain because of their age, and are among the noisiest civil aircraft ever developed. Again, because of their age, limited remaining useful life, and small number in actual operation, there has been little market for "hush kit" development. The first application for a Supplemental Type Certificate for these aircraft was not submitted until August 1984 (just prior to the January 1, 1985, compliance deadline), and no successful "hush kit" has been demonstrated to date.

Questions Submitted for the Record by the Hon. Joe Skeen

Mr. **Skeen**. Whether there is currently any other applicant for approval of Federal funding of visual glide slope indicators other than PLASI or PAPI?

Answer. Several requests for approval have been received. In addition, several other telephone inquiries were received on the possibility of Federal funding but were not followed up after an explanation was given on the current funding policy.

Mr. **Skeen**. Whether cost, and if so, on what basis, would preclude the makers of PLASI from competing with other visual glide slope manufacturers on the basis of initial cost, installation, and life-cycle operation cost considerations?

Answer. The current FAA policy is to promote standardization of visual glideslope indicators by funding only one system, the PAPI, for use by fixed-wing aircraft. Although the PLASI is in a comparable price range with the PAPI, cost is not the issue.

Mr. **Skeen**. Whether there is an institutional bias against PLASI on the part of your Airport Standards organization?

Answer. The FAA's decision to fund only one system, the PAPI, was made solely on the belief that standardization, both nationally and internationally, enhances safety. The Devore Aviation Corp. was not the only company affected by this decision as there are several other companies which make other types of visual glideslope indicators which are also not eligible for Federal funding.

Mr. **Skeen**. Whether in advocating its position against "proliferation" and "nonstandardization", Airport Standards has consulted with its personnel having "human factors" or "behavioral" type training or expertise in its Aviation Standards organization, and if so, to what extent?

Answer. The Office of Airport Standards followed all normal agency procedures in developing Order 6850.26A. Opinions were solicited from all internal agency divisions, including Aviation Standards. As to human factors an extensive report on the need for standardization of visual glideslope indicators is contained in Systems Report 32, Guidelines for the Evaluation of Visual Approach Slope Indicators, published by the Aeronautical Research Laboratories, Department of Defense, Australia.

Mr. **Skeen**. Whether, in its deliberations concerning the need for a Federal funding policy, the FAA has considered any safety data reflected in its accident or incident data system, and if so, to what extent?

Answer. The Federal funding policy was based on the need for standardization which has long been recognized as an essential safety element. Pilots need to see the same visual presentations at all airports so that it will become second nature. This practice is followed in many areas such as highways where traffic lights and markings are standardized. Also, the NTSB has recommended that the FAA follow a course of standardization for taxiway guidance signs on airports. Standardization has been proven in many ways to be an essential ingredient to safety.

Mr. **Skeen**. Whether, in its internal organizational structure, Aviation Standards or Airport Standards is responsible for initiating safety based policy change proposals?

Answer. Both the office of Flight Standards and the Office of Airport Standards have safety responsibilities. In the area of airport facilities such as visual glideslope indicators, the two Offices share a mutual responsibility.

Mr. **Skeen**. Whether, at any time, Aviation Standards, or any of its organizational components, has advocated the need for changing past policy concerning the funding of visual glideslope indicators, and, if so, to what extent?

Answer. Within any organization, including the FAA, there are always diverse views on any given issue but following careful consideration an agency position is developed. This deliberative process results in a unified position resulting in safe and cost effective policy guidance.

Mr. **Skeen**. Whether, at any time, the FAA has considered the comparative testing of PLASI, PAPI and VASI for utilization on airports for fixed wing operations?

Answer. The FAA conducted a comparative test of the PLASI and VASI with the following results:

	Subject pilots	
	Daytime	Nighttime
PLASI better than VASI	1	3
PLASI not as good as VASI	8	5
PLASI and VASI about the same	2	4

The FAA also conducted a comparative test of the PAPI and VASI and of 117 subject pilots 61 percent favored the PAPI over the VASI.

Mr. **Skeen**. Whether the FAA has considered in its deliberations the results of an Air Force test conducted comparing PLASI, PAPI and VASI, at Williams Air Force Base, in which it was found that the Air Force pilots preferred PLASI by a margin of 6 to 1 over PAPI?

Answer. The FAA did consider the Air Force test, wherein, of the 15 subject pilots, 8 were asked to rank the systems. Also, the tests were conducted only during daytime conditions.

Mr. **Skeen**. Whether the FAA reviewed, in making its decision to reissued Order 6850.26A, the entire U.S. Air Force report which found PLASI and PAPI to be, on an objective basis equivalent?

Answer. The FAA did review and consider the Air Force report in making the decision to reissue Order 6850.26A. The FAA also considered the decisions by the U.S. Navy, U.S. Army, and NATO to adopt the PAPI as their standard. The FAA was also informed that the U.S. Air Force supported the adoption of the PAPI as the NATO standard.

Mr. **Skeen**. Whether the FAA Operational Safety element, Aviation Standards, was requested to review and analyze the public comments and the U.S. Air Force report?

Answer. The notice published in the Federal Register on August 26, 1985, was coordinated with Aviation Standards. This Notice contained the results of the Air Force test. Also, the Notice published in the Federal Register on February 5, 1986, which summarized the public comments and announced the final decision was coordinated with Aviation Standards and concurred in by that office.

Mr. **Skeen**. Whether the FAA has considered that with 3,000 installed VASI systems, for which there are no replacement plans, that where airport operators may install PLASI, with their own funds, on as many as 12,000 airports, and that the U.S. Air Force, which trains a large percentage of high performance aircraft pilots who will operate in public and private sector airports, that its policy of "standardization" cannot be achieved? And that it is not necessary?

Answer. During the period of 1960 to 1982, the FAA's policy was to fund only one system, the VASI. During this period over 3,000 VASI systems were installed as compared to 400 total of other types of systems. This demonstrates that a high degree of standardization can be accomplished in this manner. The decision of the U.S. Air Force to permit funding of either the PAPI or PLASI does not affect the standardization on civilian airports. Where the Air Force uses civilian airports, they use facilities installed by the civilian airport authorities.

Mr. **Skeen**. Whether there is any international agreement which requires the FAA to install ICAO approved visual glideslope systems at non-international domestic airports?

Answer. There is no requirement to follow international standards at non-international airports. However, all airports in the U.S. are considered to be part of a total integrated system and should be standardized to the maximum extent practical.

Mr. **Skeen**. Whether there is any policy which dictates that a visual glide slope system which is patented, as noted in both the Notice and Decision, should not be eligible for Federal funding if it meets competitive cost and technical criteria?

Answer. Where a patent is concerned, a distinction must be made on whether the patent is for a concept or whether it is simply a patent on an equipment design made to meet an established concept. In the case of the PLASI, it appears there is a patent on the type of signal emitted. If a national standard were established based on a patented signal, a problem could be encountered if such a selection resulted in a sole source supplier. Where a signal in space concept is established as a standard which is not patented, then it does not matter if individual equipment designs, which duplicate the signal in space, are patented. For example, the signal concept of the PAPI is not patented. However, any of the manufacturers of the PAPI can have a patent on individual design features of their equipment.

Mr. SKEEN. Whether, on the question of need, for safety reasons, pilots can be reasonably expected to familiarize themselves with more than one visual glideslope indicator?

ANSWER. Pilots could probably learn to use two or even three different types of visual glideslope indicators. However, the margin for error is always the least with one standard system. The alternative to having a national standard which all manufacturers are free to market is to fund all designs of visual glideslope indicators. To permit the funding of the PLASI in addition to the standard PAPI will require, out of fairness, to funding all other designs. We are then faced with a situation of having numerous different types of systems, each with a unique signal presentation. A proliferation of signals could confuse a pilot.

Mr. SKEEN. Whether the FAA has considered whether its publications, including the Airman's Information Manual and Approach Procedures, sufficiently advise pilots of the characteristics and locations of the several visual glide slope indicators?

ANSWER. The Airman's Information Manual (AIM) adequately describes the performance of all known visual glide slope indicators in use in the United States. The Airport Facility Directory lists those locations which have a visual glide slope indicator.

Mr. SKEEN. Please tell me whether the current provisions of the Federal Aviation Regulations (FAR 121, 135, and 91) are adequate to ensure familiarity and understanding of the operation of more than one visual glide slope system by airline, commercial, and private pilots?

ANSWER. There is no regulatory requirement for an airport to provide a visual approach slope indicator, and there are no specific rules which require a pilot to "train" on any particular type of system. However, there are requirements for a pilot in command of an aircraft to familiarize himself with all available information concerning the flight. Also, FAR 91.87 requires a pilot to stay on or above the glide slope of a visual approach slope indicator when one is available.

Mr. SKEEN. How do you rationalize or justify such a radical change from normal administrative and regulatory practice?

ANSWER. Normal administrative practices were followed in developing and issuing FAA Order 6850.26A. There is no requirement to go through the regulatory process regarding funding decisions. However, in the case of FAA Order 6850.26A, the Congress specifically required that this Order be published in the Federal Register to obtain public comment. This was done in accordance with established regulatory practices and the public response supported the proposed FAA funding policy.

Mr. SKEEN. Does your action of February 5, 1986, discriminatorily favor that manufacturer?

ANSWER. Currently, there are two manufacturers, ADB-ALNACO of Columbus, OH, and the Crouse-Hinds Co. of Syracuse, NY, who have received qualification approval for PAPI systems for Federally funded projects. Also, the Multi-Electric Co. of Chicago, IL, has requested qualification approval and their request is currently being evaluated. In addition, three other companies, National Airport Equipment Co. of Minneapolis, MN, Godfrey Engineering Co. of Tampa, FL and Appollo Lighting Co. of Columbus, OH, have indicated they will file qualification approval requests in the near future.

Mr. SKEEN. Did you terminate all acquisition of visual glideslope systems between that time and February 4, 1986?

ANSWER. Counsel advised that the language of the FY 1985 DOT Supplemental Appropriation precluded funding of any system until the required public process was complete. However, counsel also advised that the Act did not apply retroactively to prior funding commitments and did not prohibit funding in response to emergency safety conditions.

Mr. SKEEN. Did you fund any PAPI's during that period?

ANSWER. Yes, but only in accordance with the interpretation set forth in question 20.

Mr. LEHMAN. That concludes the hearing, unless you want to come back tomorrow.

Thank you for your durability and patience.

THURSDAY, APRIL 17, 1986.

OFFICE OF THE SECRETARY

WITNESSES

JIM BURNLEY, DEPUTY SECRETARY, U.S. DEPARTMENT OF TRANSPORTATION

JANET HALE, ASSISTANT SECRETARY FOR BUDGET AND PROGRAMS, U.S. DEPARTMENT OF TRANSPORTATION

Mr. LEHMAN. The Committee will come to order.

This afternoon, we will receive testimony on the fiscal year 1987 budget for the Office of the Secretary. We are pleased to have before us Mr. Jim Burnley, the Deputy Secretary of the Department of Transportation.

Since this is your first appearance before this committee, we will insert a copy of your biography in the record. We will be pleased to hear your statement at this time. You may read it, or if you would prefer to summarize it, we shall insert your entire statement in the record.

OPENING STATEMENT

Mr. BURNLEY. Thank you, Mr. Chairman. I appreciate the chance to be here. I have with me Janet Hale, our Assistant Secretary for Budget and Programs, and I will briefly summarize the statement and submit the full statement for the record.

I am pleased to have the opportunity to appear before your committee to discuss the fiscal year 1987 budget request for the Office of the Secretary.

We are requesting an appropriation of $56.5 million for salaries and expenses of the Office of the Secretary. There is no fiscal year 1987 appropriation request for Payments to Air Carriers, nor is there a request for a separate Transportation Planning, Research and Development appropriation.

Excluding cost items that are uncontrollable or required to carry out new functions assigned to DOT by statute, the fiscal year 1987 combined Salaries and Expenses and Transportation Planning, Research and Development appropriation is a zero-growth request.

Cost items that are uncontrollable include an increase by the General Services Administration for building space rental and normal within-grade wage increases.

Our responses to new Congressional mandates include R&D funding for the Office of Commercial Space Transportation and automation of the tariff filing functions transferred to the Department from the Civil Aeronautics Board.

We have worked hard over the past several years to achieve management savings in OST. For example, excluding personnel positions performing functions transferred from CAB, the total staffing request for the Office of the Secretary in fiscal year 1987 is actually more than 100 full-time equivalent employees below the level we requested for comparable items in the fiscal year 1985 budget request.

The most significant increase in research and development activities is $1.45 million in the Office of Commercial Space Transportation. This office was established in 1984 within the Office of the Secretary to encourage and promote expendable launch vehicle activities by private sector companies.

Also, within the salaries and expenses portion of the funding for this office, we are requesting 11 positions, an increase of two from fiscal year 1986. Both of these requested increases are necessary to carry out our regulatory, safety, environmental, licensing and policy responsibilities in this area.

The positions acquired by the Department of Transportation at the end of the first quarter of fiscal year 1985, through the transfer of functions from the former Civil Aeronautics Board, have been merged into the Office of the Secretary and are funded for a full year in 1986.

Our 1987 request for salaries and expenses proposes to continue funding the transferred positions, except for those associated with the Essential Air Service Program, which we propose to terminate at the end of the current year.

The workload added to the Department by the CAB transfer continues to grow, particularly in the areas of consumer complaints and merger cases, with no increase in positions.

As you know, the Essential Air Service Program was created by Congress in 1978 as a 10-year program to subsidize air service to certain small communities. We are proposing to move the termination date up by two years.

Many of the affected communities have been served by expanded new commuter-class air service without reliance on the EAS program, and 75 percent of those still receiving subsidies under the program are located within reasonable driving distance of alternative air transportation. We therefore believe that this program has served its purpose.

ICC SUNSET

You are also aware that legislation is being developed by the Administration to sunset the Interstate Commerce Commission at the end of fiscal year 1986. This proposed legislation would transfer virtually all remaining jurisdiction for regulation of railroad freight rates, services, practices and abandonments to the Department of Transportation and would transfer rail antitrust matters to the Department of Justice.

Jurisdiction for consumer protection for transportation of household goods by motor carriers and freight forwarders would be transferred to the Federal Trade Commission.

As indicated in the fiscal year 1987 budget, the Administration intends to make a later transmittal of a proposal to fund those residual functions, adding about $7.8 million to the fiscal year 1987 request for DOT.

FAA/COAST GUARD FUNDING

I would like to underscore the urgent need for additional fiscal year 1986 funding for FAA and Coast Guard operations.

The alternatives to supplemental operating appropriations would ultimately be furlough of FAA personnel and temporary removal from service of some Coast Guard ships, stations, and aircraft due to accumulated maintenance deficiencies.

Because of statutory and administrative prior notification requirements, contingency planning in both cases must be carried out publicly, with resulting detrimental effects on both morale of personnel involved and operational planning.

We will continue to work with the committees to assure inclusion of these items in a signable supplemental bill at the earliest possible date.

We do appreciate the Subcommittee efforts on both these items.

MASS TRANSIT NEW STARTS

Transit funds for new starts: Before concluding my remarks, I would like to take this opportunity to acknowledge expiration of the 45-day statutory limit for Congressional action on several rescissions, which were proposed by the Administration concurrently with transmittal of the 1987 budget.

I particularly refer to the $521 million of mass transit funds for new starts projects.

The remedies available to us under the law, to relieve the taxpayers of this financial burden and to restore a half billion dollars to the Treasury, have run their course. It is our intention to follow the provisions of the Budget and Impoundment Control Act, and to the extent practicable, to also comply with guidance from the Appropriations Committee.

We will enter into agreements with those designated jurisdictions whose applications meet the requirements established by law or regulation.

While the full $521 million has now been made available for obligation, as required by the Budget and Impoundment Control Act, I must emphasize that our action should not be interpreted as an indication that we now agree with guidance to dump nationally collected tax revenues into a select few high-cost, local interest transit projects; we do not.

Nor does it mean that, in complying with this law, we intend to ignore, evade, or circumvent the provisions of other laws such as the National Environmental Policy Act and the Urban Mass Transportation Act, which establish prerequisites for federal grants; we cannot.

Finally, it does not mean that any agreement to enter into full funding contracts for new starts projects implies that we intend to seek or to support the enactment of future appropriations for discretionary grants to finance their completion; we will not.

What it does mean is that we will accede to the will of Congress on these particular capital appropriations, but that we will continue to use the legislative process and statutory remedies on future appropriations to the fullest extent possible, to ensure that transit tax dollars are directed to programs that serve the highest priority needs of all our citizens.

That determination is most appropriately made at the state or local level, and we believe that this can best be accomplished by enactment of the Administration's proposed highway and transit formula block grant program.

This concludes my statement, Mr. Chairman. I would be glad now to respond to the Committee's questions.

[The biography and statement of Mr. Burnley follows:]

U.S. Department of
Transportation

News:

Office of the Assistant Secretary for Public Affairs
Washington, D.C. 20590

JIM BURNLEY
U.S. DEPARTMENT OF TRANSPORTATION
DEPUTY SECRETARY

Jim Burnley was sworn in November 22, 1983, as Deputy Secretary of the Department of Transportation. As the number two official of the Department, he bears major responsibilities as the chief policy advisor to the Secretary and as the equivalent of "chief operating officer" of an organization with approximately 100,000 employees and a 1986 budget of $28 billion. He had served as DOT's General Counsel until assuming his new position. Among the major issues in which he has played both a policy and managerial role are the sale of Conrail, aviation safety and security, trucking deregulation, economic deregulation of the airlines, reauthorization of the highway program and drug enforcement by the Coast Guard.

Burnley came to the Department of Transportation in early 1983 from the position of Associate Deputy Attorney General. Prior to joining the Department of Justice in 1982, he served the Reagan Administration as Director of the Volunteers in Service to America (VISTA) program.

Burnley, 37, was a partner in a law firm in Greensboro, North Carolina, before assuming the position of director of VISTA in 1981.

He is a magna cum laude graduate of Yale University and holds a J.D. degree from Harvard Law School.

Burnley has been active in the American Arbitration Association and is certified as a commercial arbitrator.

He served as Chairman of the Reagan for President Committee for the Sixth District of North Carolina and in various Republican Party positions at the local and state levels.

He is married to the former Jane Nady. They have a son, Jay, and a daughter, Anne, and live in Falls Church, Virginia.

OPENING STATEMENT OF JIM BURNLEY, DEPUTY SECRETARY OF TRANSPORTATION, ON THE FY 1987 BUDGET BEFORE THE HOUSE APPROPRIATIONS SUBCOMMITTEE ON TRANSPORTATION, APRIL 17, 1986

Mr. Chairman and members of the Committee, I am pleased to have the opportunity to appear before your Committee to discuss the fiscal year 1987 budget request for the Office of the Secretary.

We are requesting an appropriation of $56.5 million for Salaries and Expenses of the Office of the Secretary. There is no FY 1987 appropriation request for Payments to Air Carriers, nor is there a request for a separate Transportation Planning, Research and Development appropriation. The specific requests for the Office of the Secretary are as follows:

SALARIES AND EXPENSES

The Salaries and Expenses appropriation, at $56.5 million, will provide for the overall management and direction of the programs of the Department. Excluding cost items that are uncontrollable or required to carry out new functions assigned to DOT by statute, the fiscal year 1987 combined Salaries and Expenses and Transportation Planning, Research and Development appropriation is a zero-growth request. Cost items that are uncontrollable include: $1.9 million resulting from the General Services Administration increase for building space rental and $575 thousand for normal within-grade wage increases. In response to new Congressional mandates, we propose an increase of $1.45 million in R&D funding for the Office of Commercial Space Transportation, and $400 thousand to begin automation of the tariff filing functions transferred to the Department from the Civil Aeronautics Board. The total request includes an offset of $1.4 million associated with the proposed termination of the Essential Air Service program.

We have worked hard over the past several years to achieve management savings in OST. For example, excluding personnel in positions performing functions transferred from CAB, the total staffing request for the Office of the Secretary in fiscal year 1987 is actually more than 100 full time equivalent employees below the level we requested for comparable items in the fiscal year 1985 budget request.

Activities formerly funded under the Transportation Planning, Research and Development appropriation, which provided for contract studies and research done in support of analysis, planning, and critical policy issues in the Office of the Secretary and for university research are merged into the Salaries and Expenses appropriation request in fiscal year 1987. Included in this request is $2.95 million for continued contractual support for those activities. $3.5 million of budget authority is included for continuing contract support of the Minority Business Resource Center (MBRC). The $3.5 million will be available in addition to the $0.5 million expected to be left over from previous years.

As stated, the most significant increase in research and development activities is $1.45 million in the Office of Commercial Space Transportation. This office was established in 1984 within the Office of the Secretary to encourage and promote commercial expendable launch vehicle activities by private sector companies. Also, within the salaries and expenses portion of the funding for this office, we are requesting 11 positions, an increase of two from FY 1986. Both of these requested increases are necessary to carry out our regulatory, safety, environmental, licensing and policy responsibilities in this area.

The positions acquired by the Department of Transportation at the end of the first quarter of fiscal year 1985, through the transfer of functions from the former Civil Aeronautics Board, have been merged into the Office of the Secretary and are funded for a full year in 1986. Our 1987 request for Salaries and Expenses proposes to continue funding the transferred positions, except for those associated with the Essential Air Service program, which we propose to terminate at the end of the current year. The workload added to the Department by the CAB transfer continues to grow, particularly in the areas of consumer complaints and merger cases, with no increase in positions.

In the remaining portions of the Salaries and Expenses request, approximate fiscal year 1986 appropriation levels are maintained, with adjustments for management savings wherever possible. The exception is the substantial increase of $1.9 million in the Standard Level User Charge. Total staffing in this appropriation is proposed at 709 positions in 1987, a reduction of 41 from the post Gramm-Rudman-Hollings 1986 level, which is made possible by the termination of the Essential Air Service function.

PAYMENTS TO AIR CARRIERS

The Essential Air Service program was created by Congress in 1978 as a ten-year program to subsidize air service to certain small communities. We are proposing to move the termination date up by two years. Many of the affected communities have been served by expanded new commuter-class air service without reliance on the EAS program, and seventy-five percent (75%) of those still receiving subsidies under the program are located within reasonable driving distance of alternative air transportation. We therefore believe that this program has served its purpose.

WORKING CAPITAL FUND

The Working Capital Fund provides for expenses necessary for the maintenance and operation of common administrative services in the Department. No separate appropriation is required for the Working Capital Fund, but a limitation of $69.6 million is proposed, an increase of $5 million over the FY 1986 level. The requested increase will be used primarily to finance the first full year of operational costs for DOT's new headquarters telecommunication system. This appears as an increase because, prior to FY 1987, each operating administration has separately funded its own telecommunications requirements and directly reimbursed the General Services Administration (GSA). The increased Standard Level User Charge assessed to all agencies in the DOT Headquarters building by the GSA is also included. Staffing financed by the Working Capital Fund is being reduced by nine positions from the 1986 level through management efficiencies and the reduced personnel support level resulting from termination of the Essential Air Service program.

ICC SUNSET

Legislation is being developed by the Administration to sunset the Interstate Commerce Commission at the end of fiscal year 1986. This proposed legislation transfers virtually all remaining jurisdiction for regulation of railroad freight rates, services, practices and abandonments to the Department of Transportation and transfers rail antitrust matters to the Department of Justice. Jurisdiction for consumer protection for transportation of household goods by motor carriers and freight forwarders is transferred to the Federal Trade Commission. $7.8 million and 160 positions have been tentatively added in the FY 1987 OST Budget as a separate line entry indicating Administration intent to make a later transmittal of a proposal to fund those residual functions.

This concludes my prepared statement, Mr. Chairman. I would be glad now to respond to the Committee's questions.

TRANSIT FULL FUNDING CONTRACTS

Mr. LEHMAN. Thank you very much for your statement.

Mr. Burnley, I haven't had a chance to really study your statement in advance, or to understand the full meaning of the part under transit funds, especially the new starts. Does this mean that you intend to reenter negotiations on the full funding contracts at this time? To the best of my knowledge those negotiations have been stopped.

Mr. BURNLEY. You are correct, Mr. Chairman. Those negotiations have been stopped. We do, however, believe we fully complied with section 320 before they were suspended. There were extensive negotiations through the winter months and as you are aware, full funding letters in draft form were tendered to Los Angeles, Seattle, and Miami. I would hope and expect both that we would hear from those communities and they would be able to satisfy our need and be able to sign those letters. It may be the case, however, that they will not be able to do more.

In terms of the negotiations per se, the suspension of actual sitdown negotiations imposed by the Secretary, in reaction to this subcommittee in the context of the full committee supplemental markup, is still in effect, and I must say, that we are not happy about that. We would like very much to see circumstances and conditions change and we would be happy to work with you on that.

Mr. LEHMAN. Of course, we want to work with you, too, but I am not sure you have answered my question. The Secretary has given directions, to the best of my understanding, and negotiations with these properties have stopped. I am trying to find out whether that has been changed and whether your statement indicates at this time a willingness to restart.

Mr. BURNLEY. No sir, it has changed, it does not have her blessing. We are certainly providing for the communities in question. We are available to hear anything they want to tell us, but again, the negotiating process is still in the state of suspension.

Mr. LEHMAN. When I first glanced at this, I felt without looking at it closely or hearing your explanation that you felt that something had been changed, but apparently nothing has been.

Mr. BURNLEY. No sir, there has been a major change with the expiration of the rescission request 45 day period. The funds are now available for obligation, we intend to proceed as we do with obligating any funds. We have gone to OMB for an apportionment request, and as soon as we have got communities that have met the statutory and regulatory criteria, we can obligate the funds.

Mr. LEHMAN. I am trying to pursue this because I just want to let you know that what you referred to that happened in the full Committee does not circumvent the fact that our appropriations bill does legislate that these negotiations are the law. I interpret it as a mandate that the negotiations were to continue. If they are not continued, I think this Committee would consider that this would be a violation of the legislation as included in the continuing resolution of last year.

I can't urge you enough to realize that even though you aren't happy with the results of what took place in the full Committee supplemental, these are two different things. We had to make a decision on the air traffic controllers and other things, and we made a decision. The timing, as you probably know, was perhaps more than coincidental, but I want to tell you that that does not circumvent your responsibility to follow the law as written by this Committee.

Mr. BURNLEY. We agree with that and we think we have fully complied. Section 320 says that we are to enter negotiations for full funding contracts no later than 30 days after the enactment, which would be January 18, 1986. In fact, we entered into negotiations prior to that date with all of these cities in question, and section 320 further says we are to conclude sufficient negotiations no later than 90 days after enactment. That was March 19th and not only did we conclude, we reported to the Committee in writing. Mr. Stanley sent a letter to you, I am sure you recall, on all three cities, and additionally, we tendered full funding letters to the three communities involved. So we think there has been complete and full compliance.

Now, that is certainly what is expected of us and we certainly would hope the Subcommittee, upon reviewing their record would find we have met every obligation you had imposed on us. The question now is, can we get the negotiations restarted over and beyond the statutory requirement. At the moment, they are still suspended.

GOOD FAITH CONTRACT NEGOTIATIONS

Mr. LEHMAN. I would urge you to reread the statement of the managers on the continuing resolution, and study it very carefully. As you know, we are having our investigative staff look into the process of the negotiations to see if you did comply with the statutory language in that statement of the managers and the continuing resolution. I do not consider what happened on the 89th day of the negotiations—to send a contract down to at least one of the properties with new material in it and expect it to be accepted—good faith negotiations. I don't think you have really negotiated in full faith and this is what I am going to continue to insist on. I want you to start these negotiations again. I don't care how you do it. You understand you had better start these negotiations?

TERMINATION OF CONTRACT NEGOTIATIONS

Mr. BURNLEY. We would like to do that, but the other part of your previous question indicated that on the one hand these were separate actions, the negotiations and the $750,000 OST reduction, and that yet the timing was more than coincidence. Of course, your press secretary has been quoted in the Miami newspapers saying it represents a punitive action.

The Secretary, as you recall, had two phone conversations the morning before markup and thought she had an understanding with you and was quite stunned and surprised that kind of damage was inflicted in what she viewed as an arbitrary way. She would like to have been able to get the negotiations restarted, would like to see the issue work out and we will do everything we can to work with you and your staff.

In fact, Mr. LaSala, Chief Counsel of UMTA, was in touch with your staff this morning on the investigative side. But we really don't think we can do business in a situation where she thinks she has a very clear understanding in the morning, then in the afternoon what has been characterized by your press secretary as "punitive action" is tied to this issue.

Mr. **Lehman**. My press secretary was speaking with his own voice and not my voice.

Mr. **Burnley**. That happens to us.

RESUMPTION OF NEGOTIATIONS

Mr. **Lehman**. I have no quarrel with Mrs. Dole. I don't intend to mislead Mrs. Dole. At the time, without getting into much detail, she did tell me she would have Mr. Stanley meet in New York with one of the people from our own property to see what could be done. I don't know whether this was going to be at a party or whether it was going to be a really genuine negotiation. I know that Mr. Stanley has told us that phone calls back and forth were considered negotiations, which I don't think is the way you do this kind of negotiations. I know these weren't genuine negotiations. I know there has been stonewalling.

This was not a punitive action, this was—I said in the full committee to Mr. Coughlin when he questioned my reasons I was doing something that I thought would protect the integrity of the appropriations process. When an administrative agency did not fulfill what I thought was a legal obligation on them, I had the obligation to the Appropriations Committee to let the agency know as best I could that they should not do that.

There is no direct linkage, because we had to find the money for the air traffic controllers and this was a judgment call. At that time, I considered the air traffic controllers more important. There may be a way we can work it out. The Federal Aviation Administrator said yesterday that he probably did not have the capability to use the raise from $80 million to $85 million for the FAA appropriations. He testified that he didn't think he had the capability to bring in enough controllers to get up to the level we called for in the continuing resolution. Perhaps if that is not possible, we may be able to take another look at the $5 million and it may not be needed.

But it will take both of us working in good faith. We have a window of opportunity to resolve this, let's try to use it together, let's try not to escalate this situation, because I don't think either of us can win.

MIAMI NEGOTIATIONS

Mr. **Burnley**. We are in emphatic agreement with that view and are very anxious to work it out.

If I could, just for background information, real quickly give you the actual negotiations that did occur prior to March 18, that might be helpful. On January 6, Mr. Stanley met with Mr. Fletcher and other county officials in Miami. That was a face to face meeting.

On the 31st of January, the Dade County officials sent us their draft full funding contract.

Then Mr. Stanley had a meeting, not a phone call, with Mr. Fletcher in Miami. Both times Mr. Stanley went to Miami.

13th of February, LaSala met again with Mr. Fletcher and the county attorney up here in Washington.

Six days later there was another meeting between the chief counsel and those two gentlemen.

On March 3, Mr. Stanley and other UMTA officials met. Again Mr. Fletcher and other county officials here in Washington.

And on March 18, as previously noted, UMTA transmitted a draft contract.

So I do want to reassure you that during the period covered by section 320, there were certainly a lot of phone calls. There also were quite a few face to face meetings. As you know, unfortunately, we view this as a problem we share with you. We think in a sense we will all be victimized here together. There are statutory requirements in the National Environmental Policy Act, in particular, that have to be met. We have as you know, some longstanding requirements and practices both under statute and regulation in terms of being sure that shortfalls in local shares are covered, and as you are well aware the folks in Miami say, as part of their shares, there has to be a special assessment.

There are many things here that need to be put in place before those funds are obligated. Again we think we are on the same side as you are. We are in a leaky boat, we are sorry the folks in Miami sort of got us out in front of this parade.

RESUMPTION OF NEGOTIATIONS

Mr. **Lehman**. We are not concerned about the availability of funds now. We know these hurdles, we know any contract you sign has to contain certain conditions. The point right now is not what is in the contract or how it is signed, the point is to resume the negotiations process. We have a window of opportunity now, in regard to the FAA's need or lack of need for the extra $5 million. The Secretary, I think, has probably not been, in my opinion, advised as well as she could have been by her staff to let this thing get to this point. In March, it was at a point where I had no choice but to take whatever steps were necessary to move on these full funding contracts. I have no quarrel with the Secretary, but I do have a quarrel with the process that the Department of Transportation took in moving on these full funding contracts, and we have a window of opportunity with the FAA funding now.

I don't think I have been punitive; I don't want to be punitive. But I can be punitive if I have to.

Mr. **Burnley**. Yes, sir. It might be useful to say two things, if I may. One is that it is certainly again the Secretary's desire and my desire, and I think I speak for Mr. Stanley, it is his desire to move as quickly as possible to resolve this matter. We do wish to obligate the funds as soon as the statutory and regulatory requirements have been met.

It is not, however, the case that, however the action may be characterized, the action taken in full Committee, in the context of the supplemental, is without real world consequences. It does require us to freeze hirings right now until the matter is resolved. What it means, for example, is if we were to lose two or three of the key people on the staff, working on reviewing proposed aviation mergers—let's take Texas Air/Eastern, for example, one of the major cases before the department now—we could not fill those positions.

If we need to send negotiators abroad to Europe or Latin America or to Asia to protect U.S. aviation interests, we find ourselves constrained in that regard until the situation is resolved. So it does have real world consequences and we would like very much, as soon as possible—today, tomorrow, Monday—to put the matter behind us and have an understanding, because we did think that it serves no one's interest and it is hurting us in some critical areas.

Mr. LEHMAN. Let's talk about that, because——

Mr. BURNLEY. I would like to.

Mr. LEHMAN. I think we have, as I say, a window of opportunity to get the show on the road. You and I have to sit down and talk and get some positive understanding. Then perhaps this unfortunate situation can be resolved, and as you know, the Secretary has her concerns, such as Conrail and the two local airports. I also have my priorities, especially the full funding contracts, not only for Miami but for Seattle and Los Angeles.

Mr. BURNLEY. I will sit down with you at your convenience.

Mr. LEHMAN. Perhaps when this is over.

Before going on with the questions, I would like to yield to my colleague from Pennsylvania.

Mr. COUGHLIN. Mr. Chairman, thank you very much. If I may chip in as we go along on the various questions?

MASS TRANSIT FUNDING REDUCTION

Mr. LEHMAN. Of course, Mr. Coughlin. I would like to continue with the same questions I asked the UMTA Administrator, because I really did not get a good answer.

I think you and I would both agree that if we are going to meet the commitment of Congress and the President to balance the federal budget by 1991, significant spending reductions are going to be required, and they will have to be made whether or not we increase taxes.

The obvious challenge that confronts both the Congress and the Executive Branch is to equitably distribute these reductions. Under the President's budget total transportation funding would be reduced by approximately 20 percent, but mass transit funding would be reduced about 66 percent. No one can deny that mass transportation is important to our cities. And no one can deny that healthy, growing cities are vital to our nation. It is in our national interest to have strong, livable cities just as much as it is to have a sound agricultural system, or a secure energy industry. Why then are you picking on the cities in your proposed budget? Why shouldn't we spread the burden more fairly?

Mr. BURNLEY. Mr. Chairman, you may not like my answer any more than you did Mr. Stanley's. I will be happy to take a stab at it.

As the Secretary said the day that she held her press conference to announce the Department's budget for 1987, that budget does approach in many cases a fundamental restructuring of the relationship on transportation issues between the federal government and local and state governments, and between the public and private sectors. Certainly we feel that there are very legitimate federal concerns that must be met, even in the Gramm-Rudman era, as to surface transportation. That includes transit. The question is how are those needs going to be met and one way we think they can be much better met is by the kind of approach that we have suggested in the reauthorization legislation on the highway mass transit programs which would remove from the federal government and transfer back to the state and local government a tremendous amount of decision-making authority, a great deal of discretion. They have the ability on the local level to make just the kind of judgments you are talking about in terms of what the needs are, in particular, cities in a given region or state. Those are very, very important proposals and we hope that you and your colleagues in the Congress will take a serious look at them.

Now, additionally, we think that in many ways, mass transit in this country has probably been hurt by the way the federal role has been framed in recent years. Let me be specific about that. We have had all too many instances, including right here in Washington, D.C., where the planning process has yielded the decisions that by any reasonable standard are very difficult to understand, where facilities are built years before there will be a track and those facilities are left standing idle, as happened in Washington.

We also find that on the operating subsidy side, that having the federal government available makes the negotiating process between management and labor on local mass transit systems much different than it would be if the local transit had authority to come up with those costs out of local resources. We have this very strong record, we think, that shows that decision-making process as to where routes have gone, often is distorted in ways that would not occur if local operating revenue had been generated in lieu of federal subsidies. So there is a whole panoply of issues here.

All I can say to you in brief answer is that the proposal that we made in the 1987 budget is not arbitrary. A great deal of thought and language went into it. I recognize that you and other Members of Congress may disagree with the particular aspects of it, but we do think that if you take a long look at it with us, there are many aspects of the approach we would like to take that might ultimately be found very attractive, that give local communities and their leaders a good deal more opportunities to have input into decision making and permit much more rational planning processes and create new opportunities for private sector participation as well.

Did I do any better than Mr. Stanley?

TRANSIT AIR QUALITY BENEFITS

Mr. LEHMAN. This is a question about a different set of priorities, a different set of kind of philosophies. What I think the federal responsibility is direct responsibility and not something that you can pass through to the state and local governments as you indicated.

In fact, I believe this is the first Administration since the Urban Mass Transportation Act was first passed in 1964 that has argued that mass transportation does not provide national benefits or is not important to our national welfare. I would like to run down the traditional list of mass transit benefits and get your assessment on each. First, air pollution and congestion. In your view, do mass transit systems in our large cities serve to reduce traffic congestion and air pollution?

Mr. BURNLEY. Certainly, Mr. Chairman, there are probably cases where that is true. I cannot tell you in all candor the evidence I am familiar with would support that as a general proposition.

Contrary to longstanding doctrine in this area, out there in the real world when you set up a new mass transit system what often happens is that you pull a lot of folks out of their automobiles into the mass transit at the early stages. There are other people in the communities who recognize suddenly that it is easier to drive to work than it used to be and over and over again, we see situations where you end up in a very short period of time with as many cars on the road after the transit system has been in place as you had before. So, whether on the whole you get substantial impact on environment I think is questionable, but there are certainly problem cases where that has happened.

Mr. LEHMAN. If the Washington Metro shut down?

Mr. BURNLEY. I agree with you, I wouldn't want to come into town that day, but I will say this, I certainly think that the traffic pattern that we see in this metropolitan area is an example of what I am talking about. That is, that when you pull cars off the highway and streets around Washington, within a very short period of time other automobiles show up, because again, people get the notion that they can get to work sometimes less expensively and just as quickly, and in their private automobiles they have the flexibility of an automobile.

I happen to live out in Northern Virginia. My commuting time today—I live just in the section where the new stations are going to open this summer out in the McLean area. I live a mile from the West Falls Church Station. My commuting time right now before the station opens, coming downtown in rush hour traffic, is about 25 minutes. From what I read in the papers, they estimate if I ride the subway it is going to take me 40 minutes. Also, when I drive I can listen to the news on the radio. My point is, I don't know on this particular issue that the evidence is all one way or the other. I don't think we can demonstrate it had an overall positive impact on air quality.

TRANSIT BENEFITS FOR LOW-INCOME PERSONS

Mr. LEHMAN. You can take a walk on the—I won't pursue that. Do mass transit systems make jobs and government services more accessible to low income persons?

Mr. BURNLEY. Again, Mr. Chairman, the evidence is inconclusive about that. There is certainly no evidence that would indicate that on the whole is true. What we find is that, in areas where there is substantial mass transit, the usage, the ridership among low income groups, is very close to the same as with the middle class in that area. Even in those areas where mass transit is available, at least in parts of the communities, you often find that a disproportionate number of the folks below the poverty line use taxicabs, even though the transit system is in operation, and often I think that is true, because again, as in the case of Washington, the decision-making process ends up with the transit system being built where the middle class and upper-middle class folks live first, before the poorer communities are served.

So even though you have a very substantial transit system, you don't have as a result, a pattern where you see major differences. It is not just Washington, but across the country we find that to be true as mass transit has been laid out in this country in the last 25–30 years does not in fact make it much easier for the poor to get to work. They end up with about the same benefits and costs as everybody else.

TRANSIT ECONOMIC DEVELOPMENT BENEFITS

Mr. Lehman. Well, I have ridden mass transit and seen it serve a lot of poor people and they are very happy this way.

Do mass transit systems generate economic development in our downtown areas?

Mr. Burnley. Well, I hate to be contentious but you have asked me a series of questions here on which—again I suspect we may differ on this one. The pattern is that economic growth tends to go where the population is going and where any commercial and industrial businesses are set up, others will tend to cluster. Sometimes at the margin there may be some benefit that you can trace to a transit system. Often that is not the case. Again, examples we are all familiar with, even though the transit system has not yet opened, it is not going to come closer than two miles to Tyson's Corner. As you know, the really explosive growth in the Washington metropolitan area in the last five or six years in the commercial industrial sector has been out in the Tyson's Corner area, more construction out there in the private sector than the rest of the Washington area combined. That is the real problem. Terrible bottlenecks.

Mr. Lehman. Are you sure those facts are right?

Mr. Burnley. Yes, sir. Sometimes I have to drive through and test that theory the hard way, but again, the WMATA system hasn't even opened and does not have a station within a couple of miles of that area, yet that is where the growth is. So, I am not saying that and certainly I don't think you can argue it retards growth. I am not suggesting it does, but it looks as if the growth patterns are not affected to any great extent one way or the other.

TRANSIT BENEFITS FOR ELDERLY AND HANDICAPPED

Mr. Lehman. Are the elderly and handicapped in our urban areas more dependent on mass transit than other modes of transportation?

Mr. Burnley. Again, I think, Mr. Chairman, you would find that that is not generally the case, and that the elderly and handicapped use whatever is available to them that works. Our studies indicate that often the availability of taxicab service is more attractive to somebody that has some kind of disability. As you know, we have been, with the Congress' direction, encouraging development of paratransit opportunities and a more accessible system generally. That is the sort of thing that is going to help on the mass transit side, providing more services to the elderly and handicapped. But I don't think, as of 1986, that the record will support the statement that mass transit is used to a greater extent by the elderly and handicapped than other modes of surface transportation. I think you will find private automobiles and taxicabs used in urban areas as much, if not more.

Mr. LEHMAN. You made several references to the real world. I think your answers basically are different than what the real world is.

Mr. BURNLEY. Well, it may be that I see a different piece of it, but I would be happy to supply for the record, if it would be helpful, a number of studies that have been done in recent years on these problems out in the real world, and provide you with some back-up documentation.

Mr. LEHMAN. Without objection, we will be happy to receive that. I might be able to send you a few, too.

Mr. BURNLEY. Okay.

ADDITIONAL GASOLINE TAX REVENUES

Mr. LEHMAN. The Senate has already rejected the President's fiscal year 1987 budget, and I know of no one in Congress who believes your proposed transit reauthorization bill will be passed. However, there is some speculation that an increase to the gasoline tax might be enacted before all is said and done this year.

In view of your emphasis on user fees as a funding mechanism, would you support the allocation of an additional two cents in gas tax revenues to mass transit if the federal gas tax was increased?

Mr. BURNLEY. No, Mr. Chairman, we would not. First, the Administration position, as you know, is that the gas tax should not be increased. Reauthorizing legislation we have submitted to the Congress would call for continuation of the level set in the STAA.

I think a much preferable approach is what we suggest in the highway-transit block grant, which would give local jurisdictions a lot more flexibility and discretion about how that federal aid is spent. I think that you could probably yield benefits that would be very very substantial by just giving them the opportunity through the local decisionmaking processes to use that money in ways that better serve the communities and meet its real needs versus doing projects because the federal match is 90 percent versus 75 percent or 85 percent.

We all, I think would agree some of that goes on out there. We like to put the emphasis on moving the decisionmaking responsibility back to state and local governments, giving them more flexibility.

We think the gas tax is high enough at the present rate, and would propose it be continued at that rate.

SECTION 9 OBLIGATION RATE

Mr. **Lehman**. We have also received many complaints from mass transit grantees about the slow rate at which UMTA obligates its section 9 funds. Some have gone so far as to wonder whether this is part of a conscious effort to slow down mass transit spending in light of your broader policy views on this subject.

Are you satisfied with how the section 9 program is being administered in UMTA; are funds being obligated as efficiently and as expeditiously as possible?

Mr. **Burnley**. Knowing of your interest there, I have taken a look at it recently and I am satisfied. The first year obligation rate in the last four or five years in these programs has run in the 55 to 65 percent range, and we think you would find, if you compared that to other similar grant programs, that was a reasonable range and all that ordinarily would be expected.

Now, in fiscal year 1986, there is no question that the process slowed down in the first part of the fiscal year for reasons I am sure you can fully appreciate.

First, last fall we had a series of short-term continuing resolutions. Then we all waited with bated breath for the announcement about the percentage cut that had to be taken program by program under Gramm-Rudman the first of the calendar year, at the beginning of the second quarter of the fiscal year.

That certainly slowed obligations in mass transit programs, and virtually all our other grants programs in the Department, and probably across the Executive Branch.

We are, however, very much back in the business, having gotten the answer to that question, of obligating funds, and I would expect by September 30, barring unforeseen developments, we again would have an obligation rate in the same range of around 60 percent.

NEW START IMPOUNDMENT

Mr. **Lehman**. Of course, the President's budget proposed a rescission of $223.6 million worth of transit new start funds. The GAO ruled that this was in violation of the Impoundment Control Act because a deferral of these same funds was disapproved in an earlier appropriations act.

Even after GAO made this ruling, DOT took no action. This caused the GAO to file a notification of intent to sue on April 9. I know the rescission period ran out on April 15, anyway.

But my question to you is, did you agree with the GAO interpretation of the Act that this rescission proposal constituted impoundment?

Mr. **Burnley**. My answer to your question, Mr. Chairman, is that we did not reach a conclusion whether we agreed to disagree. We sent it to the Justice Department, asked them to review it as quickly as possible, and give us an advisory opinion from the Office of Legal Counsel.

Unfortunately, they were not able to complete that exercise before the rescission period ran out, and that mooted the question.

Frankly, I don't think we'll get an answer at this point since it is academic. As a result, as I said to you earlier, we will be making funding available for obligation, so really, I didn't come to a conclusion on that issue one way or the other, and we had lawyers actively reviewing it.

Mr. LEHMAN. Have all new start funds proposed for rescission now been made available for obligation?

[The information follows:]

All of the new start funds-$521.3 million-proposed for rescission were made available for obligation on April 16, 1986.

MASS TRANSIT FUNDING REDUCTIONS

Mr. COUGHLIN. Before we go on to aviation, I do share the Chairman's concern about a disproportionate share of the reductions coming in mass transit. A lot of us worked with former Secretary Drew Lewis to help enact the gasoline tax funding for mass transit. It was very clearly stated that this was going to be an increase and not sole source of funding for mass transit.

Ever since then we have seen a whittling away or an attempted whittling away. When you talk about returning decisionmaking to the state and local governments, of course, what we are really talking about is money.

Mr. BURNLEY. A lot of it.

Mr. COUGHLIN. That is the bottom line, I always come back again to the question of understanding that those who are responsible for making the schedules and rates and fares and routes of mass transit, could have responsibility for funding them. I always come back to the question of funding, particularly non-labor-related maintenance, so that we are indeed keeping transit equipment in operation. Rather than coming back to buy new equipment we should be maintaining what we have.

I guess if we took the same level of funding that we have had in the past and said all right, we will provide funding for non-labor-related maintenance, that we could assist mass transit in a way that would not be subject to the kind of objections that you have. I hope that you will look at that year after year after year.

Mr. BURNLEY. Well, sir, I certainly agree that if the federal government is going to stay in a substantial way beyond the penny in the subsidy business as to mass transit, then that is an area that ought to be further explored.

We do think that when you have a decision made at the national level, about what percentage of funds that we make available ought to be spent on new buses versus maintaining, restoring, or refurbishing old buses, as an example, inevitably that is going to distort the decisionmaking process. We think there are any number of examples which we can't necessarily prove, but in which we suspect but that local transit authorities buy new buses simply because federal aid is there versus taking lesser levels of locally funded expenditures to refurbish them.

And anything we can do, again we encourage the Congress, obviously, to pull back in this area and the money we are talking about, as well as decisionmaking, certainly bears looking at.

Should we be unsuccessful, and I am not ready to give up by any means, and the Federal role be expanded, we shall see over and over again—there are too many examples where we guess wrong on the national level. One size does not fit all, when you try to force them into formula kinds of arrangements, you end up with them spending money on things they wouldn't otherwise spend it on. It doesn't make any sense.

So I think we are headed in the same direction as to how these policies ought to be carried out if we stay in this business.

Mr. **Coughlin**. Thank you, Mr. Chairman.

GAO IMPOUNDMENT DECISION

Mr. **Lehman**. Before we go to aviation, for the record, would you provide a legal analysis of GAO impoundment decisions and please give us your views on the GAO interpretation.

Mr. **Burnley**. All right, I will ask the Justice Department to crank up again, and we will send it in as soon as we get it from them.

CONTROLLER STAFFING

Mr. **Lehman**. The Committee, as you know, has recommended a fiscal year 1986 supplemental for FAA operations of $85 million. Part of the additional $5 million above your budget request is to be used to increase air traffic controller staffing to 14,806 controllers as specified by the conference report on the 1986 continuing resolution.

What is the current controller staffing level, and what safety impact do you believe an increase to 14,806 controllers would have?

Mr. **Burnley**. Mr. Chairman, I think the plan that the Secretary has laid out, to add 500 controllers this year, and 500 next year, is the way we ought to go on this. I am very much aware of the 14,806 that the Committee inserted in the report last year, and I should note for the record the most recent numbers, as of March 31, we have 14,028 controllers. I believe Admiral Engen was up here yesterday and it is my understanding he went into this in some detail. I will try to be brief. The problem is that the training process of air traffic controllers cannot be compressed, and we certainly, I think, would all agree we do not want to see any relaxation of standards, simply for the purpose of pushing people out of the pipeline and giving them certification as air traffic controllers.

We have to have very high training standards. We have to give very tough selection criteria because these are such critical jobs.

As I believe the Admiral testified yesterday, the FAA training process is being utilized to its fullest capacity right now. He believes, and feels quite strongly, that he has both the people and equipment needed to run a safe system.

He also believes, and obviously shares the Secretary's views and the Committee's views, that we need to have controlled growth in the number of personnel in the system up to around 15,000 over the next two years.

So, I don't think if we were simply to somehow graft on 200 or 300 more folks to hit that 14,806 by July that we would in any way improve the safety of the system. I would ask the Committee's indulgence and understanding in that regard, and ask that you let the leadership of the Department and FAA carry out the plan that is in place, with a controlled growth and not in any way put pressure on FAA to relax their training standards or to relax their selection criteria, because the Committee would agree that could be an unfortunate outcome.

Mr. **Lehman**. I wouldn't imply that.

Mr. **Burnley**. I am saying we have to all be careful about this area, because contrary to what we want, that could conceivably be the outcome.

NEED FOR ADDITIONAL CONTROLLERS

Mr. **Lehman**. Do you support the additional 326 controllers we added for fiscal year 1986 above the Secretary's planned staffing levels?

[The information follows:]

The Secretary has announced her intention to add nearly 1,000 controllers to the controller workforce by the end of FY 1987. While it might be possible to recruit 800 of them this year, we really believe that adding controllers in a more balanced fashion over the next 18 months would be making more productive use of our resources. In addition to actual recruiting, we must also consider FAA's capability to train these people and absorb them into the workforce. At present, that is being done by pulling full performance controllers off the boards for training duty. We expect over the next several months to accomplish much of that by contract, at which time FAA will be in a better position to expand its training of recruits without disrupting ongoing traffic control operations.

IMPACT OF SUPPLEMENTAL BILL VETO

Mr. **Lehman**. What would be the impact on the FAA if the supplemental is vetoed?

Mr. **Burnley**. It would be disastrous if we didn't get the requested $80 million reprogramming one way or another, and as you know, the President and OMB have made clear that the total supplemental bill that was reported out of the House Appropriations Committee is far beyond what is acceptable, so we would certainly urge the House to amend that bill on the Floor.

And we would hope that you could send a signable bill. If that does not happen, we are going to need your assistance in moving a separate urgent supplemental very quickly, because the clock is running, and one day, much sooner than any of us would like, if this reprogramming does not occur, the FAA is going to have to consider drastic steps none of us want to take.

We are very anxious to see whether the present supplemental is amended in a way that makes it signable or whether a separate bill becomes necessary—we are very anxious to see those funds appropriated.

Mr. **Lehman**. If they are not, the air traffic schedule will be severely curtailed?

Mr. **Burnley**. Yes, sir, I think that that would be one alternative that would be very possible, one, because as I think the Admiral testified yesterday, while there are some areas where we can all agree we can't furlough people, such as controllers, inspectors, and the folks involved in aviation security, particularly in this day and age. The support personnel for all those folks are also critical. In a very short period of time, you would have a safety problem if you start furloughing all the support people, and you just won't have a system that is functioning anything like it should.

So, we are quite concerned about the situation, and again, most anxious one way or another to see a bill come to the President as soon as possible, that he can sign.

Mr. LEHMAN. You are talking to the choir here, I suggest you talk to OMB and the White House to see that they have—

Mr. BURNLEY. We will, certainly, Mr. Chairman. We don't want this issue gummed up with some Department of Agriculture issues. We really do think that this one has to be addressed. Maybe it needs to be addressed separately on a separate vehicle.

Mr. LEHMAN. I am not surprised.

Mr. BURNLEY. I am aware of that. I don't think anybody in the room probably disputed us on that, and we are fully supportive of the President's desire to avoid "busting the budget" with the supplemental, and as to the FAA, that is not an issue.

CONTROLLER STAFFING AND TRAINING SHORTFALL

Mr. LEHMAN. How critical is the current air traffic controller staffing and training shortfall, in your estimation?

Mr. BURNLEY. Well, I am aware that the Subcommittee heard yesterday from the GAO and then heard from Admiral Engen. I want to say that the Secretary and I both have spent a great deal of time personally looking at this issue, not just in the last few weeks, but since we came to the Department. We are quite convinced that, at present, the plan we have for staffing and training is a good one, it makes sense.

It will give us the people we need. We do not believe, if this supplemental situation is resolved satisfactorily, that we will need to see curtailing of air traffic in any way just because of how many air traffic controllers there are.

We have a number of new initiatives under way. I don't know to what extent Admiral Engen got into those yesterday. We are concerned about some of our en route centers not having as many fully qualified controllers in place, as is ideal.

We have what is called a cross-option program that is very much underway to give people at other facilities where we have adequate personnel a chance to move. So, really, I think our problem at this point is being sure that we manage our resources on the manpower and womanpower side as well as we can, and make sure that each installation has the people it needs.

I might add that it is important, I think, to keep this issue in perspective. Every day, the air traffic control system in this country handles 15,000 commercial flights. A million people a day fly on those flights. It is an extraordinary system, and I frankly have been personally very distressed at the wave of hysteria that has swept some quarters in recent months, because the men and women who make that system work every day do an extraordinary job. It is a safe system.

We have to stay ahead of the curve. One of the great success stories in this country in recent years is airline deregulation. There is growth, and we have to keep up with it, but I don't think that there is a shortfall now. I might also add in conclusion that we are seeing a very rapid growth in the number of fully qualified controllers. In the last 12 months, we have been averaging about

75 more each month and I think that makes sense. After the strike, as you know, we had to train in excess of 10,000 people and we are now seeing the benefit day by day of that training process and the efforts that have been made to fully qualify them.

It does take two or three years and it is coming out the other end of the pipeline. We are seeing very rapid increases in the percentage of controller work force fully qualified.

REHIRING FIRED CONTROLLERS

Mr. **Lehman**. As you know, some Members of Congress recently endorsed rehiring fired controllers as a way to add experienced personnel to the system. A bill, H.R. 4003, was introduced to reappoint at least 500 in each of fiscal years 1986 and 1987. Do you believe this is a feasible option that should be considered?

Mr. **Burnley**. No, for two reasons. One, we don't know how you make any sort of reasonable judgments among the folks who were fired—as to who ought to be brought back. Almost by definition that would have to be an arbitrary process.

We don't know how you do that, and I don't think the draft legislation answers that question for us. My second point is, and this is not just conventional wisdom around the Department, as the Secretary, Admiral Engen, and I have all personally been out visiting with controllers in recent months, talking with them without their line management in the room, talking sometimes separately to their immediate first level management, the immediate supervisors, who are often in control rooms themselves, as you know. The overwhelming sentiment that the three of us have encountered in talking to these people is that we would have very severe adverse reaction from many, many of the people who are controllers today, if we brought those strikers back. That is a safety issue.

That is a serious safety issue, because if you don't have the most harmonious work relationship possible between controllers, you have a problem.

Mr. **Lehman**. I am going to have to go to the real world and vote. We will be back shortly.

[Recess.]

NATIONAL/DULLES AIRPORT TRANSFER BILL

Mr. **Lehman**. Last Friday the Senate passed a bill that transfers control of National and Dulles Airports to a regional commission. One of the amendments the Senate added to the bill would allow current airport employees to retain their collective bargaining rights. Do you support this provision?

Mr. **Burnley**. Frankly, Mr. Chairman, we have not focused on that inside the Department. That was offered in the heat of debate and if I could, I would like to submit an answer for the record, because we really haven't had a chance to sit down and reflect on it.

[The information follows:]

We support the amendment because it reflects our intent. It is redundant to a provision elsewhere in both Senate and House bills, a provision we had proposed ourselves. Our bill would preserve the existing federal labor relations rules of airport employees after they are transferred to the new authority. The amendment clarifies that collective bargaining rights for airport employees would not change.

Mr. LEHMAN. The Senate also passed an amendment on that bill providing for a 50 year lease of these airports to the regional commission. How much would the federal government receive under the lease arrangement versus your proposal to sell the airports for $47 million? And do you support the lease provision?

[The information follows:]

Yes, we support the Senate's amendment of the lease arrangement. Our initial proposal provided for the Authority to pay to the Federal Government annual lease payments over a 35-year period sufficient to repay, with interest, the airports' hypothetical indebtedness. This indebtedness was estimated to be about $47 million. Title of the airports was to automatically transfer to the Authority at the end of the 35-year period.

In addition, the Authority is obligated, within its first year, to make payments of $36 million to the State of Maryland and approximately $37 million to the Civil Service Retirement Fund to cover the future unfunded pension liability of the Metropolitan Washington Airports employees who transfer to the new Authority.

The Senate amendment does not affect the amount or structure of the 35-year lease or the first year payment requirements; rather, it eliminates the automatic transfer of title and provides for an optional 15-year extension of the lease. Under the Senate amendment, the Secretary of Transportation and the Authority can, at any time during the 50-year lease period, negotiate a contract for sale of the two airports. The sale, however, would be effective only upon enactment of legislation by Congress approving the terms of the contract.

NATIONAL/DULLES AIRPORT SECURITY

Mr. LEHMAN. The latest Libyan incident has brought renewed reports out of National and Dulles Airports that FAA police units are undermanned and ill-equipped to meet a potential terrorist threat. Are you personally satisfied with the present security arrangements at these airports? And can you assure us that there is sufficient manpower and equipment to meet any potential terrorist threat?

Mr. BURNLEY. On the second part of the question, can I assure there is sufficient manpower and equipment, the answer is yes, and the reason is that in addition to our own police forces, we have made some backup arrangements with other local law enforcement organizations. I don't have any doubt that we have the ability to meet such a threat.

However, am I personally satisfied with the present security arrangement at these airports? I am satisfied that we are moving very rapidly to correct some problems that the Secretary personally has been pressing on for quite some time. As you know, the biggest problem has been turnover, not being able to get people who were quite the caliber we wanted to get. We have had good people leave because the pay was too low.

As you are aware, Ms. Horner, Director of OPM, recently gave us a substantial increase in entry level pay. We think that on the upper end of the range there may be some more we need OPM to do, because the way they have made their decision, they gave us everything we asked for on the lower end, but they fell a little bit short of our request on the upper end. We think that raise is going to make a tremendous difference. In fact, at this time, today, I understand we have gotten 100 phone calls to FAA from people who wanted to know how to apply, and that is a dramatic change for the better.

On equipment and training, we have made in recent weeks a number of changes, and we are going to keep working on this issue. I think this is as good an example as one could make of why those airports ought to be in the hands of a regional authority, because these are very tough issues for the national government to work out and what happened on the pay issue is a perfect case in point. So I would urge you to help us any way you can to get those airports transferred to a regional authority and then issues can be worked through in a much more business-like way.

Mr. **Lehman**. As you know, we just got back from a trip looking at half a dozen airports in Europe and I have no position whether to sell the airports or not, but the airports in those countries we visited are all government owned. They are smaller countries and usually have only one main airport.

Mr. **Burnley**. Yes, sir. I believe the British are in the process of trying to sell the airports outside of London. That is my understanding, so you are correct.

Mr. **Lehman**. That is part of their privatization?

Mr. **Burnley**. Yes sir.

VARIANCES IN CRITICAL STAFFING AREAS

Mr. **Lehman**. The Office of the Secretary has responsibility for allocating personnel slots among DOT agencies. Why have we seen such a wide variance in representations from the Administration over the past five years as to what staffing levels are appropriate for such critical areas as FAA controllers, inspectors, and maintenance personnel?

For instance, former Secretary Lewis and former Administrator Helms were telling us several years ago we could significantly reduce the FAA inspector levels. A year or so later Secretary Dole told us we had critical shortages that must be addressed. Similarly, over the years we have been told by the FAA that the rebuilding of the controller workforce was on track. Then the Secretary announced quite suddenly that 1,000 more controllers were necessary. We are now told that the FAA is also short of critical maintenance personnel. Why are we continually finding that critical jobs in the FAA and elsewhere are understaffed? Who is analyzing these staffing needs and who is making these staffing decisions?

Mr. **Burnley**. Well, sir, I will be happy to answer this in full. This will take the rest of the afternoon.

Mr. **Lehman**. Why don't you highlight then do the rest for the record.

Mr. **Burnley**. All right, highlights. There is no question that in the process of rebuilding the air traffic controller work force—which was literally unprecedented, we never had to do that before in this country—that Mr. Lewis, Mr. Helms and others who were in the Department at that time, did the very best they could in estimating what they would need in the way of controllers, and when they would reach those levels.

I don't think that the Department needs to be defensive about the fact that over time we have seen some changes in those estimates of need. That is particularly the case I think when you factor in the pattern of overall growth that has occurred in aviation since the strike. In fact, as Secretary Dole arrived in the department we were coming out of the '82 recession, which had depressed that growth. Since that time, we have had very steady, sustained growth. We want it to continue.

I would quibble just a little bit, Mr. Chairman, with the notion that the Secretary quite suddenly announced a thousand more controllers were necessary. As with any announcement of a change on a major policy issue or personnel issue, quite a great deal of work went into that. We had to go through the usual discussions, FAA gave us the backup and of course then we had to talk to OMB. There was nothing sudden about that decision; it was a well thought out decision.

I must say, on the inspector issue, we are of the opinion that again we have had more growth than we expected in commercial aviation as a result of overall economic recovery, and also as a result of the deregulation. The circumstances have changed and that is why inspector numbers have changed.

Let me take a moment on the maintenance personnel issue, if I may. When the reports appeared in the press about a month ago, the Secretary instructed me to take whatever time was necessary to personally review that matter. I met with Admiral Engen and senior members of his staff in this area. The Admiral and I agreed that a document which had been prepared down in FAA mid-management level on its face had a number of deficiencies and he basically said that document did not represent his views as to their maintenance personnel situation.

We have continued to work very actively together on this problem to make sure that we have a sense of whether there is a serious problem. To this point, it does not appear that it is a case where we have a critical overnight shortfall, but it is the case that the NAS plan is very much underway, new equipment coming on so that we have to be attentive in that area.

One of the things we have been doing—and all these decisions by the way, are made in the give and take of FAA, OST review analysis—one of the things we have been doing is encouraging FAA to look at part of the NAS plan procurements, and also make arrangements to have private sector maintenance personnel available at least in the years of putting the system in place. Major NAS plan procurements have done that.

We also have a pilot program looking at contracting out 500 FTE, perhaps doing that as early as next year. I would hope we would. In any event, we are on target in the maintenance work force, so we have flexibility and safety. I think you will see in the years to come continuing changes in how many people we tell you we need in each of these critical functions because there is going to be continuing economic growth, NAS plan procurements coming on, and we are going to have to continue to come back to you and tell you, based on new information, here is where we think we are.

[The information follows:]

The great dip in controller employment was, of course, due to the August 1981 PATCO strike when over 11,000 controllers were fired. We have essentially recovered from the strike and are continuing to add to the workforce to match expected future growth in air traffic.

Much of the decrease in systems maintenance staffing has been the result of anticipated contracting out and expected efficiencies resulting from new solid state equipment coming on line. Where there has been delay in bringing these programs on line, some temporary shortages have developed.

The reduction in safety inspectors was generally reflective of Government-wide budget cuts in prior years and FAA's prioritization of needs. Secretary Dole has, of course, revised that trend beginning in 1984. FAA has also made some organizational changes to permit more effective use of inspectors.

At the direction of the House Appropriations Committee, the Department is developing safety enforcement staffing studies for aviation inspectors, motor carrier inspectors, rail safety inspectors, pipeline safety inspectors, and marine safety inspectors. The modes are preparing the studies and working closely with OST's Office of Policy to ensure that appropriate quantitative staffing standards and workload goals are being set.

Staffing decisions, as with most decisions involving Departmental resources, are made by the Secretary in coordination with the modal administrators and OMB. This coordination is generally preceded by extensive analysis and discussion between modal and OST staffs.

FUNDING FOR CRITICAL SAFETY FUNCTIONS

Mr. LEHMAN. Can you assure us that there are sufficient funds in your fiscal year 1987 budget to support sufficient staffing levels for all critical safety responsibilities of the department, especially in the FAA?

Mr. BURNLEY. Yes, sir, I can assure you of that. I certainly think though, that if we suffered substantial cuts in FAA operations for next year, that would be a substantial problem. I know the Admiral testified on that yesterday. I share his views that we really don't have a lot of surplus folks over there in the critical functions. I do think it is very, very important that those budget requests be honored to the extent the Subcommittee sees it possible to honor them and, particularly on FAA operations, I think that is very, very important. We have asked for a $156 million increase, if I recall correctly, in that account.

STAFFING STANDARDS

Mr. LEHMAN. The Committee requested the department to conduct a study to set staffing standards for certain critical DOT inspection programs. The objective of the study is to try to make these staffing decisions based on quantitative data instead of subjective judgments. Do you believe we should move towards more widespread use of staffing standards for some of these key safety areas?

[The information follows:]

The FAA has used staffing standards for many years to determine its staffing requirements in key safety areas such as air traffic control, airway facilities maintenance, and aviation safety inspection. Currently, staffing requirements for these three areas (which make up more than half of the agency's work force) are based on quantitative data, and each standard has undergone recent refinement to improve its accuracy. Standards for the aviation safety inspection function are currently undergoing further refinement.

Staffing standards are a very useful tool which can contribute significantly to the efficient management of an agency. In FAA, staffing standards are currently in use or under development for most key safety functions. Since staffing standards for Government functions are costly and often difficult to develop, decisions to develop standards must take into consideration the size of the work force involved (as well as the potential safety impact) in order to achieve the maximum benefit from the standards. FAA staffing standards efforts are based on consideration of both work force size and potential safety impact.

Mr. **Lehman**. What is the status of our requested staffing standards study?

[The information follows:]

At the direction of the House Appropriations Committee, the Department is developing safety enforcement staffing studies for aviation inspectors, motor carrier inspectors, rail safety inspectors, pipeline safety inspectors, and marine safety inspectors. The modes are preparing the studies and working closely with OST Policy to ensure that appropriate quantitative staffing standards and workload goals are being set. This report is due in June, 1986.

AIRLINE MERGERS

Mr. **Lehman**. What is the status of your antitrust review of the proposed Northwest/Republic and Eastern/Texas Air mergers? When do you plan to make a decision on these mergers?

Mr. **Burnley**. Well, sir, as you know, we have a six month statutory deadline and we are extremely intent on making those deadlines. Both those cases are complex, they are major competitive issues. It would not be appropriate for me to go into detail on those issues, but I think I can assure the Subcommittee that we will make those decisions within the statutory schedule, and if my memory serves me correctly, the statutory deadline for the decision in the Northwest/Republic case is July 31. The statutory deadline in Eastern/Texas Air is August 31. We will make both those deadlines.

Mr. **Lehman**. Will a decision be made in that period of time?

Mr. **Burnley**. Yes, sir. There will be a decision, the Secretary will announce a decision.

Mr. **Lehman**. Final decision?

Mr. **Burnley**. Yes, sir.

Mr. **Lehman**. How about the Justice Department position on these merger proposals, do you have a summary?

Mr. **Burnley**. Well, sir, to date in both of those cases, the Justice Department filed preliminary comments. Those comments have been on procedural issues. In neither case have we had anyone filing substantive comments to date. So, as to the Justice Department's position on procedural matters in the Northwest/Republic case, the Justice Department had asked the Department to let them have what is called informal discovery period. We agreed and that has been completed.

Justice then took the position that we should not have any kind of formal hearing at all, that the case was so clear in its view, as to the correct outcome, there should be no hearing.

The airlines involved agreed on the process absolutely, but absolutely disagreed on substance, and everybody else who filed comments asked us to hold a hearing. The Secretary approved, just a few days ago, a decision to give everybody involved in the case a chance to be heard.

Similarly, in the Texas Air/Eastern Airlines case, the Justice Department asked us for another formal discovery period and the Secretary, in that instance, was of the view that we had not gained anything from using that informal discovery process in the Northwest/Republic case and that it would simply slow us down 30 days, so we are going to skip that stage on Texas Air/Eastern and go to the hearing stage.

COAST GUARD AC&I FUNDING

Mr. **Lehman**. I am going to have some other questions for the record in regard to the possible delays in these mergers.

I believe you have decided to transfer $10.4 million from the Coast Guard's acquisition, construction and improvements appropriation to the operating expenses account under authority of section 5 of P.L. 98-557. Are these funds in addition to the $35.5 million you recently requested?

Mr. **Burnley**. Yes, sir. As you know, we have had, primarily because of the interest of the United States Senate, and Senator Stevens in particular, a good deal of unrequested assistance in these accounts in recent years, and we have found the funding pattern has been moving in rather abrupt fits and starts. We ended up with more than we know what to do with in some fiscal years and getting more-or-less what we asked for in others. As a result of all that give and take, there was a session very recently with the OMB Director I attended on the Secretary's behalf, Senator Stevens and members of executive staff and the outcome of the session, I am happy to say, is that Director Miller sent a letter to Senator Stevens—we will be happy to supply it for the record—basically laying out some understanding about reprogrammings. It gives us a much more level funding arrangement between FY 86 and 87, more-or-less an understanding that we will not have a Coastal Defense Augmentation appropriation in FY 87. So, if I may, let me supply an answer to the specific question for the record, with Director Miller's letter, and we will reflect in that answer exactly what the impact is.

Mr. **Lehman**. One of the main players is the Defense Subcommittee on the House side, so I would hope that you involve yourself in their position.

Mr. **Burnley**. Yes sir.

Mr. **Lehman**. What acquisition, construction, and improvement projects do you plan to take these funds from, and will those AC&I projects need to be restored at a later date?

Mr. **Burnley**. I believe, Mr. Chairman, that is a question I just responded to. If I can we will supply that for the record.

[The information follows:]

As a result of discussions with Senator Stevens over the use of the Coastal Defense Augmentation funds provided in the FY 1986 DOD Appropriation, the proposed AC&I project lists for both FY 1986 and FY 1987 will have to be redone. The $10.4 million proposed transfer will be an integral part of that process. As such, there are no reductions specifically tied to the $10.4 million transfers. Coast Guard intends to provide the Committee with the revised FY 1986 and FY 1987 AC&I project lists as soon as they can be finalized.

EXECUTIVE OFFICE OF THE PRESIDE
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

APR 1 6 1986

Honorable Ted Stevens
United States Senate
Washington, D.C. 20510

Dear Ted:

It was a pleasure to meet with you on March 26th to discuss the best way to allocate the $375 million appropriated in Navy's 1986 budget for Coast Guard equipment. This letter summarizes the issues you and I discussed and agreed upon at that meeting.

First, we agreed upon a spending plan for the 1986 Coastal Defense Augmentation funds. Of the 1986 Navy funding, $265.6 million will be spent for items on the original list: $112 million for sixteen patrol boats, $54 million for three C-130 airplanes, $44.5 million for twenty-four C-130 radars, $41 million for three medium range helicopters, and $14.1 million for the buoy tender extension program. Of the remaining $109.4 million, $18.4 million represents the sequestration under Gramm-Rudman-Hollings, leaving $91 million. We agreed that $21 million will be used for non-routine maintenance, priority Coast Guard capital projects in 1986. The remaining $70 million will be available for Coast Guard priority, defense-related equipment.

Second, we agreed to work together for enactment of legislation authorizing Coast Guard user fees. I especially appreciate your commitment to hold hearings on this important issue. We look forward to working with you on any necessary modifications to the Administration's proposal.

Last, I am very pleased with our agreement that no funds would be added to the 1987 Defense appropriation bill for the Coast Guard.

Ted, I want to thank you for setting up the March 26th meeting. It is clear to me from the above list that it was a very productive meeting for all of us.

Sincerely yours,

Jim

James C. Miller III
Director

DRUG INTERDICTION FUNDING

Mr. LEHMAN. I believe there may be efforts made in the Senate to add more funds to the Coast Guard to augment their drug interdiction efforts. Does the Coast Guard need additional drug interdiction funding in fiscal year 1986?

Mr. BURNLEY. Well, two answers to that. One, that is an enormous problem, as you know, and we are very, very proud of the record of the Coast Guard in drug interdiction. You will never catch them all and we are of the opinion that the request we have made for FY 86, with the supplemental request, will be sufficient, so we are not looking for new drug interdiction money.

The other thing that is tough in these exercises is to find, because of the multi-missions of the Coast Guard, what is drug interdiction and what is fishery enforcement or some related mission. Often you have a vessel out in the water and they may run a search and rescue mission. They may pick up some refugees. Two days later they may stop a drug smuggler. It is very tough to categorize how you spend the money and our view is that, with that supplemental appropriations request, we will be all right.

Mr. LEHMAN. You have answered our next question when you said you were proud of the Coast Guard's interdiction effort.

Mr. BURNLEY. Yes, sir.

COAST GUARD PROCUREMENT PROCESS

Mr. LEHMAN. The Committee has also expressed concern about problems raised by the Inspector General and the GAO over the Coast Guard's procurement process. We asked the Office of the Secretary to become involved earlier in the acquisition process to perhaps offer more objective analysis of the Coast Guard's future equipment needs. How would you rate the Coast Guard's procurement process, and what steps have you taken to exert greater control over it at the secretarial level?

Mr. BURNLEY. Well, sir, I would rate it on the whole as a good process, but an imperfect process. Happily it is a process that is improving. The Commandant several months ago—and I will give the Subcommittee credit for this—came to us and said that he wanted to completely revamp how major acquisitions are handled in the Coast Guard and in fact, proposed an office with the appointment of a flag rank as leader, to manage all the major acquisition. Additionally, again in response to the Subcommittee's input in part, we have redoubled our efforts to get in at an earlier stage on the procurements.

And we have had, since I guess early '84, another area that is troublesome in all significant procurement exercises and that is smaller procurements, which add up quickly if you can't watch them. We had a very tight oversight operation out of the Office of the Secretary, and in her name, to make sure that we were not frittering money away anywhere in the Department that the exercises focus on. Because of the amount of money spent by Coast Guard this year on acquisitions and procurement, this operation has folks working on the Coast Guard as well as FAA, and so we have been, since shortly after Mrs. Dole became Secretary, very deeply involved. We, in response to the Subcommittee's guidance, are getting a little further into it, and earlier. Again, I am sure this new office they have set up is going to help considerably.

CONRAIL SEVERANCE PAYMENTS

Mr. **Lehman**. Regarding the Conrail question, we will not revisit the sale issue today since both Secretary Dole and Administrator Riley did thorough jobs in answering our questions. One related issue that remains outstanding concerns the outcome of negotiations between DOT and Conrail that this Committee had requested to secure agreement on Conrail taking over severence payments for its employees without further government reimbursement. We were disappointed that these negotiations were not completed when the FRA testified in March. Where do these negotiations now stand, and when will they be completed?

Mr. **Burnley**. Let me say, Mr. Chairman, I am not surprised that the Subcommittee is satisfied with Secretary Dole's and Administrator Riley's answers, but I am heartbroken personally, because I love to talk about it, too.

Mr. **Lehman**. Can you talk about it?

Mr. **Burnley**. But I do want to say for the record that, from what I hear about the testimony the Subcommittee received this morning from Mr. Berger, in our view his characterization of many of the critical issues on sale is entirely in error. I will be happy to supply some information for the record, if that is what would be useful, on the question of actual severance payments arrangements.

We are quite anxious to follow the Subcommittee guidance in this area. As example of that, Mr. Crane and his folks don't talk very much about how Conrail is tapping the federal till. In December of 1985, just last December, right after the Subcommittee input on this issue showed up as part of the CR, we sent a check for $11 million to Conrail for labor protection, which then, of course, artificially puffed up their cash flow for that month. We have contacted them, we have written both management and their Board of Directors. We have asked them to meet and negotiate with us, and we have been informed Mr. Robert Swert, who is their Vice President for Labor Relations, will be their primary contact.

We, at this point, are at the staff discussion level on this and I would frankly think we might benefit from some direct input from the Subcommittee, if you see fit to do so, to Conrail about the need to get on with this agreement. We would very much like to move the talks to a successful conclusion.

Mr. **Lehman**. You mentioned Mr. Berger's testimony this morning. If you feel like you want to write, and I don't think you have to do it for the record, if you want to write a letter.

Mr. **Burnley**. All right.

Mr. **Lehman**. Just write a letter.

Mr. **Burnley**. We will be happy to submit our views.

Mr. **Lehman**. Do you endorse the concept that Conrail should now pay for its own section 701 and section 702 assistance costs instead of the federal government?

[The information follows:]

Yes, we do endorse the concept that Conrail should assume full financial responsibility for its labor protection. Since November 1985 we have been working with Conrail staff to close out the Section 702 workforce reduction program by the end of fiscal year 1986. We have also had meetings with Conrail for the purpose of effecting a coordinated transition to Conrail of financial responsibility for the Section 701 labor protection program as directed by the conferees in the conference report accompanying the fiscal year 1986 Appropriations Act. We expect to have a report to the Committees shortly with a proposal to end Federal responsibility for Conrail labor protection. Our intention is to achieve a plan acceptable to Conrail and labor, thereby ensuring a smooth transition.

CONRAIL PLANNED ABANDONMENTS

Mr. **Lehman**. I would also like to clarify one point in Mr. Riley's testimony on Conrail. He implied that Conrail is planning to abandon another 4,000 or 5,000 miles of track in the future if it remains a stand alone railroad. Would you be more specific on how you arrived at this figure and how confident you are that such abandonments will actually happen?

Mr. **Burnley**. As to the last point, unfortunately I cannot be that specific. I suspect, however, that Mr. Coughlin is well ahead of all of us in that regard and could probably answer that better than anybody else in the room since Conrail is headquartered in his district.

Let me come back to the first question about the source of Mr. Riley's numbers. Those are Mr. Crane's numbers, and they appeared in a December, 1985 Modern Railroads interview with Mr. Crane and his chief operating official. The article by Mr. Wesselmann, which was on the interview of these two gentlemen says:

[The article follows:]

Writing the Rails

by Carl H. Wesselmann

On board with Mr. Crane

When the invitation came all other "urgent" matters were easily shunted aside.

Would I care to join Mr. Crane and others on a line inspection trip to Pittsburgh?

Care? Is Reagan a Republican? Is the Pope Catholic? Can Gorbachev speak Russian?

One scarcely needs only the flimsiest excuse to get out of the office these days. But when the chance comes to stop the editorializing momentarily and actually become involved, however briefly, in a phase of operations, a second invitation is most definitely not required.

Taxpayer is the hero

It began at Chicago's Union Station at a feeble hour in the morning. Conrail Chairman L. Stanley Crane's special train included the business car and a "theatre" car. The latter featured banked seating and a huge picture window that commanded a spectacular view of the track as we sped along.

All hands were restored with warming coffee that never seemed to stop flowing. Actually, this was a kind of theme for the one-day trip since the track, mirror-smooth and seamless, seemed also to pour out from beneath the wheels. Among those also on board were R. B. Hasselman, senior vice president, operations, industry legend Jervis Langdon, and Tom Shedd, editorial director of *MR*.

The trip was no idle joy ride; rather it was one of a regularly scheduled *working* series in which Mr. Crane literally keeps in touch with his railroad. The line was the old New York Central's "waterlevel" route through South Bend, Cleveland, southeast to Alliance and into Pittsburgh—the top western leg of Conrail's crucial "X."

The utter smoothness of the track stands in sharp contrast to the bouncy, swerving ride of the Conrail trains of nine years ago, as depicted in a famous movie. This time, the beauty of the rail line seemed a fitting cap to the railroad's odyssey from those shakey beginnings in 1976 to its feisty image now: from outcast to prized property. Of course, it must not be forgotten that it was the taxpayer who was the hero in this scenario of rehabilitation. Still, there is no question that it was money well spent when the number of jobs saved is considered together with the retention of rail services in a vital transportation area.

Even so, Crane and Hasselman were keenly aware of the work that remains. Here and there pockets of mud-clogged roadway, flagged for repair, were pointed out by division superintendents who joined the group as the train entered each's territory. Conrail has three high-productivity continuous-action tampers that figure to get workouts in these projects.

Someone noted the low amount of westbound traffic, but Mr. Hasselman pointed out that this is the rule on Mondays and that the trains will pick up to a constant flow on Tuesday. The line, in fact, has been so busy that it has served partly to downgrade the old Pennsy Ft. Wayne route to the south, a fact that prompted Mr. Crane to comment on Conrail's future.

It is important, he said, that the railroad's status be settled one way or another and soon. He reaffirmed his belief that merger with Norfolk Southern is the least desirable solution, but that continued operation under government ownership is almost equally intolerable. After all this time, he stated, Conrail should be given the chance to operate independently.

Meanwhile, the effort remains to get the lines down to a core system, somewhere within 8000 to 9000 miles. It is a policy that all the major railroads have adopted to some extent, while it helps contribute to a hazy financial future for some of the lessor roads but seems to open the opportunities for short lines.

With the latter, Crane was satisfied that relations have been greatly improved, especially with respect to the bitter boxcar deregulation dispute of the recent past. The versatile short lines have, in several important instances, he stated, "relieved" Conrail of maintaining uneconomic routes by taking them over and serving as feeders of traffic for the trunk lines.

Railroading's major problems of efficient operations and profitable marketing of services are more understood now than at anytime in its past, he insisted. The tools of technology are also on hand to help personnel keep themselves and their systems sharp. If the industry then finally yields to its competitors, he concluded, it should be because its time has past and not because it refused to improve.

The next several years will be critical for Conrail and the railroad industry, insisted Stan Crane. In this period it should pretty well be confirmed whether or not the carriers as a whole can come to grips with their service and reliability problems together with their unit costs.

Conrail's much improved plant is only a first step. Essentially, it has brought the railroad to a level with most of the other major railroads and to a point where it remains for all in the industry now to justify their place in the transportation picture.

The excuses for declining market share seem to be running out. The railroads must now demonstrate that, like Conrail, they believe in a future worth preparing for.

Mr. **Burnley**. In any event, the phrase "core system" is a term of art, and the way it was used over at the ICC—that is the way we interpreted it—we think that is what in fact these gentlemen meant, when riding across the countryside in the plush business car that he took Mr. Wesselmann out on one afternoon talking about all this. They are trying, in fact, to slim the system down to 8-9,000 miles and that is perfectly consistent, Mr. Chairman, with what they are doing right now.

CONRAIL FINANCIAL MANIPULATION

Let me expand a little briefly. We are very disturbed about the pattern of management of that railroad in the last year or two. They did all they could to artificially pump up their paper profit numbers. Let me be specific. There are now fewer employees on the railroad today than a year ago. Last summer, Mr. Crane put out his projected budget for '86—his numbers, not ours. He said that they need to spend $634 million on capital on that railroad in this year, in 1986.

As a rider on the Conrail sale would be going to the Senate floor, six months later, they put out a revised budget, and lo and behold, that number was down to $501 million. You might ask why is it that the capital needs of Conrail dramatically changed and why it went down from $634 to $501. Well, the answer to that may be that the traffic in '85, particularly the last half of '85, was substantially below what Conrail projected and to be able to even make a superficial argument that they were generating enough cash to pay dividends, due to the Morgan Stanley proposal, they had to reduce the capital budget. Otherwise, it would have been clear to all concerned the company couldn't pay those dividends.

The Morgan Stanley plan wasn't working. It is those kinds of distortions and kinds of pressures being put on the railroad that we think simply underscore the importance of the sale to a transportation interest because the railroad unfortunately—it is not something we say with any glee—is not sufficiently financially healthy for us to be able to bet on its viability free standing.

So, coming back to the question, those are Mr. Crane's and Mr. Hasselman's numbers, not ours, as to the core system.

Mr. **Lehman**. Mr. Coughlin.

CONRAIL PLANNED ABANDONMENTS

Mr. **Coughlin**. We were surprised this morning that the U.S. Railway Association didn't seem to be aware of this and were questioning from where they in fact did come. I would like to get a copy of that.

Mr. **Burnley**. Yes, sir. I will submit it for the record.

Mr. **Coughlin**. Thank you.

[Clerk's note.—The article referred to appears on p. 871.]

CONRAIL BOARD OF DIRECTORS

Mr. **Lehman**. Before leaving the Conrail, we would like to visit some of the problems that surfaced as far as the board of directors are concerned. Why was Mr. Burke replaced?

Mr. **Burnley**. Once a year the Secretary goes through the exercise of appointing directly five of the directors of Conrail and participating in the election of six others, because she sits as a member of the U.S. Railway Association board.

During the first three years of her tenure, she made no changes whatsoever in any of her appointments nor did she make any changes, suggest any changes, in the U.S. Railway Association appointees, and that is an extraordinary and somewhat unusual situation, compared to the normal pattern in our Department for advisory boards and other secretarial appointments.

She made the judgment that she would like to call upon the substantial expertise, particularly in sophisticated financial matters, of Mr. Gingrich, and it is simply a question of which seat he would assume. Mr. Burke has served extremely honorably and well on that board, and contrary to some press report generated in Philadelphia, he had not covertly or overtly, so far as we know, in any way tried to undercut the sale of the railroad to transportation. But we were frankly astounded at the panic reaction out of Philadelphia when they discovered that we were changing one director.

As it happens, Tuesday morning, we had sent over to Mr. Berger's office here in Washington at the U.S. Railway Association, our signed copy of a unanimous consent resolution voting to reelect U.S. Railway Association directors. To our amazement, that afternoon, Mr. Berger and Mr. Crane, in lock step—so much for U.S. Railway Association impartiality in this matter—withdraw their consent to Mr. Berger's own resolution, which is a most unusual thing to have happen. I don't understand it yet.

So what happened in Philadelphia Wednesday morning was that, at the announced time of the annual meeting of Conrail at 8 a.m., the Secretary's proxy holder arrived, and cast the common shares and preferred stock we hold for her five designees. We did not have the resolution on the six U.S. Railway Association directors. They are in limbo. They are holdovers now, and under the bylaws and charter serve until they are replaced or reappointed. They are in limbo. It is the most extraordinary situation.

I called Mr. Berger on the phone yesterday. I said why did you do that? He wanted to talk to me about something else, and so later on, after I got through talking to him about something else, I asked what are you going to do about this? He said, well, we have to straighten it out.

So I am sorry, I don't know whether you got a chance to ask him this morning about that. I am sorry it happened. I think it is very instructive, however, in what is going on over at U.S. Railway Association—that is, the impartiality that one would expect from them is clearly not there.

Mr. **Lehman**. We did not ask Mr. Berger about that this morning.

Would you provide for the record an explanation of Mr. Gingrich's qualifications for being appointed as a Conrail director?

Mr. **Burnley**. We will be happy to.

[The information follows:]

Claud L. Gingrich is a Vice President and founding partner of L.A. Motley and Company.

In 1983-1985, Mr. Gingrich was General Counsel to the Office of the United States Trade Representative and Ambassador William E. Brock. In that capacity he was responsible for providing legal advice on all trade-policy, legislative, and administrative matters before the agency. He testified frequently before Congress on trade-policy issues and was the Administration's summary spokesman on the legislation enacted as the Trade and Tariff Act of 1984.

Mr. Gingrich began his government service in the Office of the General Counsel at the United States International Trade Commission. He became legal advisor to the Chairman of the Commission in 1976 and Deputy General Counsel in 1978.

In July of 1980, Mr. Gingrich moved to the legislative branch. He served from 1980 until 1983 as International Trade Counsel to the Senate Finance Committee.

Mr. Gingrich was born in 1946 in Elmira, New York. He is a graduate of Cornell University and the University of Michigan Law School. After law school he completed a post-graduate program at the University of Amsterdam, the Netherlands. Mr. Gingrich served in the United States Army from 1969-1971 including a tour of duty in Vietnam.

CONRAIL MANAGEMENT PERFORMANCE

Mr. **Lehman**. How would you assess Mr. Crane's performance on Conrail and was your action in any way motivated by a desire to replace Mr. Crane as the CEO of Conrail?

Mr. **Burnley**. The answer is that it was not in any way motivated by a desire to replace him. I would rate his performance as CEO of Conrail prior to a year ago outstanding. Unfortunately, a year ago, he gave up day to day responsibility for running the railroad, by all accounts and appearances, and went to work virtually full time lobbying here in Washington and across the countryside about the sale. During the ensuing period, actually 14-15 months we have seen extraordinary things happen up there that appear to be driven by his opposition to the sale and we don't think the railroad ought to be operated in that fashion.

It is not healthy for the railroad to have six of its directors in limbo. That is not healthy.

It is not healthy for the railroad to have 3,000 jobs disappear because of this incredible pressure on them to justify Morgan Stanley's numbers.

It is not healthy for the railroad to see its capital budget cut $134 million in six months.

It is not healthy for the railroad to play games with cash flow, which has happened at the end of last year where Conrail appears not to have paid any bills between Christmas and New Years, and on January 2nd, their cash on hand drops $30 million as they pay all the December bills because they were trying to make cash flow look good in December. So I must say that I am of the opinion Mr. Crane is a brilliant railroad man, and I wish he would go back to it.

CONRAIL BOARD OF DIRECTORS

Mr. **Lehman**. How independent should the Board be; should they be under your control—in most corporations the directors determine who is going to be the pressident?

Mr. **Burnley**. That is right.

Mr. **Lehman**. What is your view as to how Conrail's directors should operate? Should they be allowed to make independent judgments or should they take the orders from the Secretary and the

U.S. Railway Association board, who appoints them? You can write a magazine article on this, I am sure.

Mr. **Burnley**. Several.

Let me just briefly say that the Secretary and I both are of the view that her designees on the board need to have a good deal of independence and flexibility and we have tried very hard to give them that. By the same token, we are both of the view that they need at least some sensitivity to her views as to the fundamental issues concerning Conrail.

Similarly, with the U.S. Railway Association directors, I think that if we had a U.S. Railway Association director who systematically undercut the good management that you would expect in any company who was guilty of arbitrary or capricious conduct as a board member, for example, you would want to do something about that member. So I think there are limits as to what you ought to tolerate, but I don't think that either in the case of the U.S. Railway Association or in the case of the Secretary, they ought to be under specific orders as to how they vote on each issue that comes up at a board meeting.

Again, her policy since being Secretary has been to stay out of that business and to make sure that the folks that represent the Department on the board are aware of her views on the one hand, but on the other hand, to give them a good deal of discretion.

We are frankly astonished at these stories that were generated. I know from what the reporters told our press people, generated by the Conrail public affairs office the last two days about some coup d' etat concerning Mr. Crane. It is not true, it didn't happen. Somebody up in Philadelphia hit the panic button. I think the bottom line is that it is yet another example of how critically important it is to get the railroad sold as soon as possible, because what is happening is that the sale process is, in a very serious way, undercutting what should be management decisions, board decisions made without regard to what is going on in Washington, D.C. and that is unfortunately just the opposite of what we have got.

HIGHWAY TRUST FUNDS OFF BUDGET

Mr. **Lehman**. At our March 19 Federal Highway Administration hearing, Administrator Barnhart testified in support of taking highway trust funds off budget. He said, and I quote:

"For five years, I have felt on a point of principle that the Trust Fund should, of course, be removed from the unified budget . . . I frankly do not feel strongly about getting it off, I am content to leave it where it is. Although, in principle, I think it is wrong."

Mr. Burnley, would you comment on Mr. Barnhart's statement—is that the administration's position on this issue?

Mr. **Burnley**. Mr. Chairman, I suspected that I would get this opportunity this afternoon when I saw this statement originally.

Mr. Barnhart, as I understand it—correct me if I am wrong—made clear at the time he answered your question on this point that he was expressing his personal point of view. And he is certainly entitled to that point of view. As he says here, he is content to leave it where it is.

It is certainly the Administration's position that the highway trust fund ought to remain within the consolidated budget and it is our understanding that even if you took it out of the budget, it would still, as Gramm-Rudman-Hollings is written, be subject to that process and it would be subject to sequestering should that be necessary.

So I didn't think when you look at the interplay between the consolidated budget and Gramm-Rudman, that it would make any substantial difference. If it is on the budget or off budget, the issue would still be whether it contributes to the federal deficit. And no matter whether it is kept in the budget or not, it could still be subject to the sequestration process. In our view, it ought to remain within the budget.

Mr. **Lehman**. Well, we are happy you have that position and wish we could reeducate Mr. Barnhart.

Mr. **Burnley**. Yes, sir.

INTERSTATE HIGHWAY FUNDING REDUCTIONS

Mr. **Lehman**. I will take it we are going to have a unified budget. We then have to have a unified budget, even with social security, I don't think we ought to have 15 or 20 budgets.

Under your proposed budget for the Federal Highway Administration, the deepest funding reductions are in the interstate construction account, which is clearly the highest national highway priority. In explaining this reduction, Mr. Barnhart made the following statement at our Federal Highway Administration hearing, and I quote:

"I personally feel that there are several gaps that, were it not for ten cent local dollars, the state would never build those gaps because they are not essential and there are other higher priorities.

"However, I did not believe that we could redefine completion, and so we have cut the pot for interstate completion, and in order to share the glory of redefining that system with the States. They are going to have to target their money where they think it ought to go."

Do you agree with Mr. Barnhart's assessment? If so, why don't you propose legislation to simply delete those poorly justified segments from the interstate system instead of trying to squeeze them out through lack of funding?

Mr. **Burnley**. Well, sir, we are not trying to squeeze them out. They are not lacking funds. I do agree, on the other hand, with Mr. Barnhart's assessment—and let me just amplify for a moment. We believe it is the case again, as I was testifying earlier as to mass transit, that the federal process, grantsmanship process, does distort local priorities, and I think that is all Mr. Barnhart was driving at in this instance. We believe that the structure we have proposed in reauthorization of highway grants in fact makes fully available all of the funds necessary to truly complete the interstate system.

What we have done, as you know, we have designated a minimum amount of about $1.6 billion a year that will be allocated to states on the interstate formula, then we have given the states the discretion to decide to spend a substantial sum beyond that if they choose to, on their segments.

We think by divorcing the decisionmaking process to some extent from the question of whether the state will lose its interstate dollars if not spent on that system, we will be able to see a little more rational planning, although I have to confess we didn't necessarily fix it completely, because if you decide to spend any of your grant funds on the interstate, the formula still works 90-10. But we do think that that additional flexibility in discretion is a major step in the right direction, and I would hope that the Congress, upon reflection, would agree with that view. If that happens, then I think some of these segments that Mr. Barnhart was referring to are likely to fall out at the state level.

INTERSTATE COMPLETION DELAY

Mr. Lehman. According to the Federal Highway Administration, the effect of your proposed $2.2 billion per year proposed funding reduction in "interstate construction" would be to delay completion of the interstate system until 1996. That is six years longer than the date assumed in current legislative funding levels. Why do you believe that a six-year delay is necessary?

Mr. Burnley. We are estimating a six-year delay, and again, what we have proposed are some minimum levels and then we have proposed that the states have the flexibility to make judgments about how much money they want to spend, under the Interstate Primary Combined program, we think as it plays out, exercise of options by the states is likely to result in completion sooner than 1996.

Now, if all the states spend on the interstate between now and 1996 is approximately $1.6 billion a year, yes, it would play out to 1996. But we expect that they would make those decisions differently and that the system would be completed somewhat sooner than that.

Mr. Lehman. About when?

Mr. Burnley. Well, it would depend. You could run endless numbers of scenarios. It would depend on how much more—but again, we are proposing leaving decisions to a great extent to the states. I presume we can provide some simulations for you, if the Subcommittee wants us to do different funding decisions, and how they play out. I don't know whether that would be useful to you or not. I think our computers could spit that out. It would be all imaginary.

I think the question is, again, how should decisions be made? We are proposing to give the states more flexibility. That means you have somewhat less certainty. Even if they decide to spend every dime other than $1.6 billion on other projects, besides interstate, then it is still going to get finished by 1996 but it could also be later, if they decide to forego the 90–10 match and spend less than $1.6 billion on the Interstate.

INTERSTATE TRANSFER FUNDING REDUCTIONS

Mr. Lehman. Under the Federal Highway Administration's budget proposal, the interstate substitution highway and transit programs would be combined and funded at a reduced level from a total of $900 million in fiscal year 1986 to $500 million in fiscal year 1987. The Federal Highway Administration testified that this funding level will "stretch out completion of the interstate substitute program to approximately 1998." Why do you believe it is appropriate and fair to penalize those states that have decided to withdraw segments and substitute them with other priority highway and transit projects? By doing this, aren't you neglecting the federal commitment to states that acted in good faith on the belief that they would receive their trade-in funds on a timely basis?

Mr. **Burnley**. Well, sir, we didn't think it is neglecting them and on the other hand, we do think that the substitution process ought to work the same way, whether the funds are moving to transit or to highways. And we further think that just in terms of how much money is going to be available, to spend through this process, playing out the next several years, that it is going to be necessary to stretch out completion of the system.

This is an example of a Gramm-Rudman related proposal and we don't think it is at all irrational. In fact, we think it is a very reasonable approach and it gives us on the one hand a stretching out; on the other hand, nonetheless, the money will flow, and over time, you will see about the same outcome. We think that when you have to make some hard choices, occasionally this kind of a discretionary program is a pretty good place to make them.

FUTURE HIGHWAY CONGESTION

Mr. **Lehman**. Looking into your crystal ball, it seems that our highways are becoming increasingly congested in and around our large cities, and the future certainly does not seem to be getting any brighter. In one news report, the mayor of a large metropolitan area summed up the problem as follows:

"Unless something dramatic is done, the traffic congestion we have today is a pale, pale shadow of what we are looking at in the future. We have statistics to show that we will have three times as many congested intersections in ten years, even if we build every proposed new freeway."

The UMTA Administrator has essentially said that the Administration does not believe that mass transit will solve our mobility needs of the 1990s and beyond. How are we going to deal with these problems in your view? Are we going to need a massive new highway program?

I might mention that there is no new thruway being built in Dade County because we built them through all the poor areas already, and the middle income people do not, will not permit them to be built, and even in widening I-95 we are running into massive opposition from people who don't want to live by the interstate.

So one of the reasons that I give in my own area as to why we need the metrorail and other mass transit projects is because we can no longer build interstates—we can't build any more freeways.

And this is true all over. I was out in Los Angeles, which survives on freeways, and to the best of my understanding they are now in the process of completing a freeway that most people think will be the last freeway ever built in Los Angeles County. They can't build anymore out there. People won't let them. If you are going to unblock the highways, I doubt if you are going to be able to do it with more freeways.

Mr. Burnley. Well, sir, I do not think we need a massive new highway system. I have no idea what city this gentleman is mayor of, I assume that it's a gentleman—the article doesn't say that.

Mr. Lehman. It may be Tyson's Corner.

Mr. Burnley. It might be. In any event, there are a lot of fixes that you could put on these kinds of problems. For example, if you don't have a computerized stoplight system in a major metropolitan area, your traffic doesn't move as well as it should. If you haven't taken full advantage of high occupancy vehicle lanes, at least explored that, you are going to have more rather than less congestion. There are things you can do with turn lanes. These are the kinds of devices that can be used to ease traffic flow.

A lot of our major cities have lagged in those areas and our sense, on the other hand, is that those are ultimately decisions that need to be made to the extent possible at the local level. It is very tough for us to sit over in the DOT building and be absolutely confident that we have revealed the truth on how to handle traffic flow around Los Angeles. I am sure we have some people in our building that think they know. I don't necessarily share their confidence that they know. And to the extent, again, that we can move toward more flexibility for the states and locals, we think that that really does go to the question of traffic flows and making sure the local officials have all the authority possible to get at these problems. That is why our reauthorization bill is structured to move in that direction.

BMCS TRUCK BRAKE RULE

Mr. Lehman. As you know, we are interested in the issue of BMCS allowing truckers to disconnect their front wheel brakes. At the end of February the Secretary indicated that a review of the notice of proposed rulemaking to fix this problem was underway and would be completed in about four to six weeks. How is the review coming along? Can you tell us when we might expect to see the proposed rule?

Mr. Burnley. She wants it out. We are almost there, Mr. Chairman. I would expect to have it in OMB for review in the next very few weeks and then assuming they don't have any major problems with it, we ought to have it out sometime late this spring or early summer.

ESSENTIAL AIR SERVICE TERMINATION

Mr. Lehman. You are again proposing to terminate the essential air service program. Would you explain your reasons for this?

[The information follows:]

In view of the limited numbers of passengers using the subsidized service and the excessive subsidy cost per passenger, we believe operating subsidies for air transportation should be discontinued. The majority of communities receiving subsidy enplane fewer than 10 passengers per day, with many enplaning fewer than 5 passengers per day. For some of these communities, the subsidy exceeds $100 per passenger. Furthermore, a large number of the subsidized communities are within reasonable driving distance from alternative transportation centers (less than 75 miles). Therefore, in most instances the cost of providing service far outweights the benefits being derived. In addition, the essential air service program was designed to afford small communities a transition period while the air transportation system adjusted to deregulation. It was contemplated that service could then be self-sufficient at the end of the program. In general, the system has adjusted to deregulation and the industry, particularly the commuter air carrier sector best suited to serve small communities, has developed to the point that it can respond to service needs and market requirements directly without government intervention. Given these circumstances and in light of the current deficit problems, we are again proposing to terminate the essential air service program.

ESSENTIAL AIR SERVICE FUNDING REQUIREMENTS

Mr. **Lehman**. If your proposed accelerated termination of the essential air service is not approved, what do you estimate your expenditures for fiscal year 1987 for the program would be, both for subsidy payments to air carriers and for salaries and expenses to administer the program? Also, what EAS staffing level would be required to administer the EAS program in a timely and efficient manner if the proposed termination is not approved?

[The information follows:]

We estimate that $32.0 million would be required for payment to air carriers ($25 million in addition to expected carryover of $7 million) and an increase of $1.2 million for salaries and expenses to administer the program. Staffing levels of 34 full-time positions (32 employees) in the Office of Essential Air Service and 7 support positions elsewhere in OST are being employed this year and are proposed for elimination in FY 1987, concurrently with termination of P.A.C.

ESSENTIAL AIR SERVICE ALTERNATIVE SUBSIDY APPROACHES

Mr. **Lehman**. What consideration have you given to replacing the outright subsidies under the current program with alternative strategies such as a cost sharing with the affected airports or communities?

[The information follows:]

Given the limited number of passengers using the service, the economic costs of providing the operations and the unlikelihood that these communities can achieve self-sufficiency in the foreseeable future, we have concluded that subsidies for air transportation cannot be justified on a cost-benefit basis and such subsidies should be discontinued. In view of this, we do not believe it is in the public interest to pursue alternative subsidy approaches, and none have been considered.

However, at the beginning of the program several years ago, the Department of Transportation and the Civil Aeronautics Board raised the issue of cost sharing with state and local governments. In those discussions, many communities indicated that they were not in a position to participate in any joint-funding arrangement. In addition to this problem, any joint-funding arrangement would probably entail more procedural steps in securing and maintaining the service and greater administrative costs. These costs would make the program less efficient and could exceed any savings for the government.

Mr. **Lehman**. I think we will go vote and come back as quickly as we can.

CAB FUNCTIONS

Mr. **Lehman**. It was recently reported that certain aviation industry officials believe that DOT's handling of its newly acquired CAB functions has been less than satisfactory. They say, and I quote:

"[there has been] greater susceptibility to political influence, delays in decisionmaking in controversial cases, and less efficient distribution and circulation of orders."

How do you respond to that?

Mr. BURNLEY. Mr. Chairman, let me answer that in part this way.

A couple of members of the authorization committees that are very important on these issues in the Senate and House recently said publicly that they quarreled to some extent with how we were handling the investigation of these airline merger cases, and we weren't doing it exactly the way the Justice Department said we ought to do it, and they were unhappy about it. And the Secretary and I were quite taken aback at that particular line of criticism for two reasons:

One, we haven't really done very much. We are still in the procedural stage.

Two, as you will recall, we proposed and fought to have that responsibility sent to the Justice Department in the first place. We have tried to carry it out but if there is substantial dissatisfaction among key players in the aviation industry on how we are handling that part of our responsibilities, maybe it would be wise to go back and look at our suggestion of two years ago.

I do think we have a very, very good story to tell about CAB sunset given how complex it was and given the size of the residual functions. Still, as you know, there is a great deal that we have to do.

In the international area we have had to pick up the CAB role. That was fairly easy because we already had a major role before sunset.

Review of aviation merger cases was an entirely new responsibility.

We had to take over the consumer affairs operation and we didn't really have a large consumer affairs office in the Department prior to sunset.

And in addition, we had to pick up some information gathering activities.

On the whole, we are very pleased with how sunset has gone. The Secretary has bent over backward and has been quite stern with other officials in the Department, making clear that she will not tolerate political influence on these decisions that have gone through the Department on major economic issues affecting the airline industry. So I really think broad brush criticism in that fashion is way off base, and I would challenge anyone in the industry or anywhere else, for that matter, to document a charge of that kind.

There is no question that we would expect some criticism about distribution, circulation, of orders, because we have not been quite as free, particularly under Gramm-Rudman, to make all that available free of charge as the CAB did. Folks who used to get copies for free, who now have to pay for them, don't care for that. We will plead guilty to that and again, we make no apology for it.

I hope the Subcommittee shares this view that we have a good story to tell about how this has worked since we took over these responsibilities.

YEAR-END SPENDING PATTERNS

Mr. **Lehman**. Last fall the General Accounting Office released a report on federal year-end spending patterns for fiscal years 1982-83-84. Out of 15 agencies, DOT was the highest spender in the fourth quarter for "supplies and materials," and "insurance claims and indemnities." You also rated in the top five in "other services" spending. Why aren't your agencies spending at a more uniform rate in these areas? Are they simply trying to use up their funding before they lose it at year end? Who is hoarding the paper clips?

Mr. **Burnley**. Better not be anybody.

I really hope that first off, Mr. Chairman, we get a copy of the report. To my astonishment when I was looking at this issue, we had some difficulty getting the record from the GAO. It will help us a lot when we get our hands on it.

Secondly, I don't think that spending on a category like insurance claims and indemnities is at all driven by the fiscal year kind of concerns. When you pay insurance claims, when you either had a settlement process or an adjudication process play through, that really is not the kind of thing that ought to be tied to fiscal quarters. If that shows up as a year-end bulge, it seems to me that the bulge has to be coincidental.

Finally, DOT accounts out of which we buy, for example, major equipment and materials, are almost entirely a multiyear operation. We don't lose funds in the F&E account at FAA, for example, and we don't lose funds in the AC&I account in the Coast Guard on September 30th. So we don't have that institutional incentive we are all familiar with, that would lead to a lot of unnecessary year-end paper clip buying.

And finally, I will say this. I am sure that we could probably find some places where we need to tighten up a little bit and if and when the GAO shares their information with us, we will be happy to do so.

Mr. **Lehman**. Especially in the "other services" area. That is contracting and those things.

Mr. **Burnley**. Yes sir. I believe I am correct, we just haven't gotten——

Mr. **Lehman**. When you get the GAO report, make a response for the record.

Mr. **Burnley**. We will do so.

[The information follows:]

We have reviewed the data on the Department of Transportation spending patterns set forth GAO Report (GAO/AFMD-85-75) on federal spending patterns. Our source data does not agree with the data in the GAO Report. We have asked GAO staff to provide us information on how they developed data for the Report. We anticipate resolving this issue within 30 days and providing an answer to the Committee at that time.

GPO PRINTING CONTRACTS

Mr. **Lehman**. I understand that the Government Printing Office is encouraging federal agencies to take maximum advantage of GPO commercial procurements for both printing and electronic publishing. They claim this would result in substantial cost savings. Please provide for the record an explanation of your efforts to increase your reliance on GPO commercial procurements for printing and electronic publishing. Please also include an estimate of the cost savings you will achieve.

[The information follows:]

Since 1984 the Department has placed strong emphasis on using GPO commercial procurements as an alternative to in-house printing production. The number of procurements processed by DOT Headquarters has increased by more than 19% since 1984. This has resulted in savings of $162,700 in 1985 with equal or greater savings anticipated for 1986.

The Department has only recently begun use of GPO's electronic publishing capabilities. The FAA Technical Center in New Jersey recently started to transmit its publishing data to the electronic publishing system at main GPO. GPO's prices are extremely competitive, but this is our first venture into electronic publishing and it is not possible to gauge overall dollar savings at this time.

STUDY UPDATE

Mr. LEHMAN. In House report 99-256 we directed you to perform several studies. Would you run down the status of each of these studies?

[The information follows:]

The following chart reflects the status of these studies.

FY1986 APPROPRIATIONS COMMITTEE REPORTS

05-14-86
HSC86 (G)

I - HOUSE REPORT 99-256 (H.R.3244)

HOUSE REPORT PAGE NR.	DESCRIPTION	PRIMARY ADMIN	COORD ADMIN	DUE IN B-20	DUE ON HILL	DELIVERED TO HILL	COMMENTS
H-06a	SAFETY TASK FORCE REPORTS	OST-S1(Med)		01-10-86	02-01-86	CURRENT	Reports for FAA, FRA & RSPA provided to Committees.
H-06b	NON-SMOKING AREAS AT AIRPORTS	FAA	OST-P	01-10-86	02-01-86	04-11-86	
H-07a	SAFETY STAFFING STUDIES	OST-P	S-1(Med)	05-15-86	06-01-86		
H-07b	PACIFIC BASIN REGION NEEDS	OST-P	MARAD	06-01-87	06-30-87	N.A.	Will be tracked in FY 1987.
H-07c	SEAWAY MODERNIZATION STUDY	OST-P	SLSDC	11-15-86	12-15-86		Our study is due in time for use in Corps' (CoE) Additional Locks Study, which is not expected this calendar year. December time frame is adequate for Corps' use.
H-07d	ELIMINATING TOLLS ON SEAWAY	OST-P	SLSDC	11-15-85	12-01-85	12-24-85	
H-07e	MBE-SEC.105(f) of STAA	OST-S40	FHWA	02-15-86	03-01-86	OVERDUE	S-40 requested extension to 04-15-86. Submitted 04-01, retrieved 04-03, resubmitted 04-25, in clearance process.
H-11	COAST GUARD ACTIVITY IN EUROPE	USCG		01-15-86	NOTE (1)	COMPLETED	
H-19	COAST GUARD PROCUREMENT	USCG		01-15-86	NOTE (1)	COMPLETED	
H-21	ALL-DIGITAL COMM TECHNOLOGY	USCG		02-01-86	02-15-86	02-24-86	
H-33	COPY OF NOAA'S NEXRAD STUDY	FAA			10-31-85	12-13-85	
H-35	FSS DIR USER ACC SYS (DUATS)	FAA		12-15-85	01-15-86	OVERDUE	Resubmitted to OST 04-09; negotiating OMB clearance.
H-39	GAO CONCERNS ON AAS CONTRACT	FAA	OST-M	ASAP	10-15-85	01-29-86	
H-40a	RESULTS OF SECURITY R&D REVIEW	FAA	OST-P	12-15-85	01-15-86	02-11-86	Combined with S-35a.
H-40b	NOISE REDUCTION INCENTIVES	FAA	OST-P	03-15-86	04-05-86	04-11-86	
H-43	MWA CAPITAL NEEDS STUDY	FAA	OST-B	02-15-86	03-15-86	03-19-86	
H-45	MBE DEMO BONDING PROGRAM	FHWA	OST-S40	11-01-85	11-15-85	02-06-86	Single report sent to comply w/ this and C-325.
H-46a	T.ROOSEVELT BRIDGE/I-66	FHWA	OST-P	03-15-86	03-31-86	04-03-86	
H-46b	G.W.PARKWAY/ROCHAMBEAU BR	FHWA	OST-P	03-15-86	03-31-86	05-08-86	
H-46c	VIRGINIA OUTER BELTWAY	FHWA	OST-P	03-15-86	03-31-86		Extended to 05-30-86 at FHWA request (direct).
H-55	FED-AID OBLIGATIONS BY STATE	FHWA	OST-P	COPY	MONTHLY	CURRENT	March report sent 04-14-86.
H-74	AMTRAK WEATHER ALERT SYSTEM	FRA	AMTRAK	01-10-86	02-01-86	OVERDUE	Rec'd in OST 05-05; in clearance process. Extension requested; Comm. briefed on status,03-13-86.
H-87/88	BID PROTEST SYSTEM	UMTA		ASAP	10-01-85	01-13-86	
H-92	VALUE ENGINEERING	UMTA		01-15-86	NOTE (2)	COMPLETED	
H-96a	A-76 AVIATION INFO FUNCTION	RSPA	OST-M	01-10-86	02-01-86	OVERDUE	RSPA advised 04-03-86 to submit this in writing. Rec'd in OST 05-06; in clearance process.
H-96b	USER FEES AVIATION INFO	RSPA	OST-P	01-15-86	NOTE (1)	COMPLETED	
H-99	FAA & USCG PROCUREMENT PRACT	OIG	OST-M	01-10-86	02-01-86	01-31-86	

NOTES: (1) HAVE A TALKING PAPER AVAILABLE PRIOR TO SECRETARY'S OVERVIEW HEARING.
(2) DUE AS PART OF FY1987 CONGRESSIONAL BUDGET JUSTIFICATIONS.

SPACE SHUTTLE PRICING POLICIES

Mr. LEHMAN. I know DOT and NASA have been at odds in the past over space shuttle pricing policies. Would you review your past differences for us and explain the Department's current position on space shuttle pricing and cost recovery?

Mr. BURNLEY. Well, sir, there was a very spirited debate. To some extent the Congress was involved in that debate last year, but it went on largely inside the Executive Branch, about the appropriate definition of cost recovery, and it is true that the Department and NASA view that issue somewhat differently. I do think, however, that in view of the Challenger disaster, it is very, very difficult today to have any precise sense on what full cost recovery would be.

The President's decision of last summer had built into it on its face, a review process of 12 months, and we expect that process will occur. Perhaps by then if the Rogers Commission has reported and if the decision has been made by the Administration about how to go at the issue of replacing the Challenger, we will have a clearer picture on cost recovery.

But right now, in view of that terrible disaster, there really aren't any numbers even floating around that mean anything, because the arithmetic on costs obviously change very dramatically. We have no sense yet of how those cost figures are going to look once the decisions are made about the future of the shuttle program.

I do, on the other hand, expect that decision making process is going to move fairly quickly in the next few months. Later this year we will have a better handle on it.

Mr. LEHMAN. In your view, at what level would the shuttle transport price have to be set to fully recover shuttle costs?

[The information follows:]

A variety of price levels can be identified as being designed to "fully recover shuttle costs" depending on the cost elements that are included or excluded and the flight rate that is assumed. DOT has advocated the inclusion of both total operating costs and capital recovery charges and the use of more conservative flight rate estimates as the basis for calculating shuttle prices.

The FY 1989 Shuttle Pricing Policy for Foreign and Commercial Users, promulgated in July 1985, requires an annual review by NASA. The review is to include an analysis of shuttle cost experience and the anticipated future effectiveness of the pricing policy in implementing National Space Policy goals under changing market conditions. The recent loss of the Challenger creates some uncertainty regarding future shuttle prices, particularly since potential cost increases and subsequent shuttle flight rates are not yet known. We would expect, however, that any analysis that is completed will reflect price adjustments required as a result of the accident.

Mr. LEHMAN. Last August the Reagan Administration announced a new shuttle pricing policy. As we understand it, the White House wants to auction the shuttle's cargo bay to foreign and commercial customers at a minimum rate of $74 million for a full bay. I believe this price is substantially lower than what was recommended by Secretary Dole. What was the full bay price recommended by the Secretary and how was the price level derived? And on what basis did the Administration justify a lower price than recommended by the Secretary?

[The information follows:]

A variety of complex issues and priorities were weighed in establishing a shuttle pricing policy for foreign and commercial users and numerous definitions of cost recovery were considered during the Administration's deliberations.

During those discussions, DOT advocated a price of $129 million per flight (in 1982 dollars, at a rate of 18 flights per year) based on data contained in the Cabinet Council on Commerce and Trade Working Group Report of April, 1985. The Administration established a policy whereby shuttle flights would be sold "at auction," with a minimum acceptable bid of $74 million per flight, in order to ensure maximum return to the government. The assumption was that the price would rise as demand for launch capacity increased, bringing the price of a shuttle launch to a level where U.S. commercial ELV firms could compete.

Mr. LEHMAN. What are the implications of the Administration's current shuttle pricing policy with respect to the shuttle's competitiveness with subsidized foreign space launch operations?

[The information follows:]

The shuttle has consistently been the price leader in space transportation. No matter what price is set, however, foreign systems will consistently try to price their product a few percentage points below the shuttle to be competitive and to fill capacity.

Arianespace, the only active provider of commercial launch services, recently raised its prices in what appears to be an effort to recover more of its costs. Such actions clearly indicate that price increases for the shuttle would not inhibit its competitiveness.

SPACE SHUTTLE VS. ELV

Mr. LEHMAN. What are the implications with respect to the encouragement and promotion of the commercial domestic expendable launch vehicle industry?

[The information follows:]

The FY 1989 Shuttle Pricing Policy for Foreign and Commercial Users has thus far precluded a U.S. Commerical ELV industry from gaining a share of the launch services market. The Government is able to offer a variety of incentives (such as reflight guarantees) that, when combined with artificially low prices, preclude free market competition. Presently, with constrained shuttle launch capacity, it is questionable as to whether the Government can or should be using the shuttle to launch foreign and commercial satellites at an incentive price when they could be launched as effectively on commercial ELVs. A viable commercial industry is ready to undertake this effort, but not if it must compete with the U.S. Government for its customers.

DOMESTIC ELV INDUSTRY OUTLOOK

Mr. LEHMAN. What effect has the recent space shuttle disaster had on the outlook for the U.S. commercial expendable launch vehicle industry and the outlook for Ariane? Where does the domestic expendable launch vehicle industry now stand compared to Ariane on a technology and profitability basis?

Mr. BURNLEY. Well, sir, there is no question that the space shuttle disaster has had an effect and it is our belief that it will mean there will be a need for a substantial commercial ELV industry in this country. We do not think in the next four or five or six years, even if the decision ultimately is made to have a shuttle continue commercial payloads—that is a very open issue at the moment—we do not think that the shuttle is going to be able to meet all the demand.

On the other hand, production lines have to be opened up, lead time on ELV's is in the one to three year range, as I understand it, so I think that there is going to be an opportunity of sorts—not one that any of us would have wished to develop this way—but an opportunity for a commercial ELV industry.

Ariane is moving aggressively to try to pick up what business it can, but it can't pick up very much in the short term, because it again has long lead times, and they had already booked their flights for a couple of years out, so in the short term, it doesn't make much difference.

We do think a domestic ELV industry can compete with Ariane, and we think that industry can have a very bright future in this country if national policy permits it to have the opportunity to get the business. There are, as you know, discussions going on right now, both within the Executive Branch and with the Congress about how we are going to approach commercial launches in the post-Challenger disaster period.

DOMESTIC ELV VS. ARIANE

Mr. **Lehman**. Is Ariane technology more advanced than ours?

Mr. **Burnley**. No, it is not. They have some plans, some missiles, and rockets on the planning boards that are more sophisticated, carry larger payloads, but there is no substantial technical gap between their technology and the technology in the private sector in this country.

TWO-TIER SHUTTLE PRICING

Mr. **Lehman**. Shuttle pricing policy appears to be a two-edged issue. On the one hand subsidized shuttle rates assure competitiveness with Ariane space and encourage space-related research and development ventures.

On the other hand, subsidization could inhibit a domestic, private ELV industry. The Aerospace Industries Association of America has suggested possible resolution of these seemingly conflicting interests through the adoption of a two tier pricing structure for the shuttle. As we understand it, subsidized price would apply to those payloads involved in research and development work. Full cost recovery would be charged to commercial and foreign satellite owners. Would you comment on the AIA's suggestion for a two-tier shuttle pricing policy?

[The information follows:]

Shuttle pricing policy does, in fact, reflect this type of "two-tier" pricing structure for commercial and foreign users of the shuttle. The President's Shuttle Pricing Policy for FY 1989-91 does not apply to those foreign and commercial customers that are developing innovative uses of space. NASA's Joint Endeavor Agreements (JEAs) and other incentive programs have been developed to encourage R&D activities with commercial potential and provide the mechanisms for providing special consideration to such projects.

DOMESTIC ELV INDUSTRY OUTLOOK

Mr. **Lehman**. What is your economic prognosis for the domestic commercial expendable launch vehicle industry?

[The information follows:]

The domestic ELV industry enjoys the advantage of twenty-five years of experience in building and launching expendable launch vehicles. These vehicles have successfully launched hundreds of civil and military satellites and have reliability ratings in excess of 95 percent. Private companies are eager to put this technology to use in the commercial marketplace

If given proper government encouragement through definitive policy, the economic prognosis for the U.S. commercial ELV industry can be quite good. The main condition to stimulate private sector investment in space transportation is the clear signal that the U.S. government will not compete with a domestic ELV industry.

COMMERCIAL SPACE OFFICE FUNCTIONS

Mr. COUGHLIN. Are the folks in your Office of Commercial Space both promotional and regulatory?

Mr. BURNLEY. Yes, sir, they are. The way that the office was created by the President's executive order, that was then to some extent superseded by legislation, we have the responsibility for doing all we can to assure safety, by making certain that all appropriate federal statutes and treaty obligations are met before launches are licensed. We also have the responsibility to be sure that we cut the red tape to a minimum, and that we do all we can to help someone who wishes to launch get through the federal regulatory process.

So in that sense, our responsibilities are promotional. But we have first and foremost, as we do in many other modes of transportation, safety responsibilities and that is where we are putting our emphasis. In fact, we have some small research and development projects underway right now, to be sure that we define those safety and regulatory responsibilities properly.

ELV LAUNCH LICENSE APPLICATIONS

Mr. COUGHLIN. How many license applications were received or processed or issued last year?

Mr. BURNLEY. Congressman, my memory on that—and I will submit it for the record—but let me say here I believe that we only had one and the industry really was in a state of suspended animation waiting for a shuttle pricing decision. We were not surprised that we didn't have a lot of people come to us. We then had the impression, again prior to the Challenger disaster, that the industry was reacting to the shuttle pricing decision somewhat differently than we had expected. We, frankly, thought that that decision for a while at least, might mean that we wouldn't have a lot of applications.

We were beginning to see signs of activity. Then with the Challenger disaster, it is our expectation that we are going to have a number of applications in the next year or two.

[The information follows:]

A launch license is the Government's formal approval that enables a firm to go ahead and actually launch a vehicle. To date, however, the Office's most important role is in providing guidance to companies as their proposals evolve. Actual licenses—or even applications—come late in the process and are largely "formal" actions. For this reason, we do not believe that the actual number of license applications is the most accurate standard for assessing the actual level of regulatory activity or industry interest and planning.

Launch proposals are complex packages that include several elements, each of which may be reviewed and approved separately by the Office. The Office has, in fact, taken several licensing actions pursuant to its licensing and or regulatory authority, including:

The approval and supervision of an experimental water launch by Starstruck, Inc., off the coast of California;

The review of a payload proposal by Space Services, Inc. of Houston, Texas, to launch a series of satellites containing cremated remains;

The review of a private launch site proposal; and

A determination on insurance requirements for a potential series of commercial launches that would be conducted by General Dynamics.

SPACE OFFICE STAFFING

Mr. COUGHLIN. How many employees are in the office now?

Mr. BURNLEY. We have eleven now, including two in the research program, and we are asking for two more. It is a very small office. We have tried to keep it very lean because again, the whole idea was that we would not get carried away with creating new regulatory processes. We will have those processes that are necessary to meet statutory and treaty obligations, to be sure the launch is going to be safe. We are not going to be setting up a huge bureaucracy.

We do, however, have a very substantial workload for those people, because we are in the process literally of creating from scratch the necessary regulatory devices to carry out our responsibilities. Should that industry begin flourishing in the years to come, I think both this subcommittee and the department will be able to look back on this with some pride, because I think this is going to be one of those occasions where we are ahead of the curve. Again we are trying very hard not to make too much of an affair of it; we don't want to set up a substantial bureaucracy.

COMMERCIAL SPACE SAFETY REGULATION

Mr. COUGHLIN. What sort of safety regulation work does the office do?

Mr. BURNLEY. Well, sir, you know when you launch a rocket, you want to be sure that you have some sense as to where it is going to come down, if it is coming down. So there are some basic questions that you have to ask people about their expertise on the facility they are going to use. You have to be sure that, if it is going to come down, if it fails, then the pattern as it falls takes it away from populated areas and keeps it away from the territory of other nations. We don't in that area have anything like the kind of inspection that we have in FAA. We can't have people traveling, by definition on ELVs but we do have some responsibilities in the safety area.

Another area, just a simple thing, you obviously would want to have assurances they are not going to let people cluster around the thing too closely during launch. Those are issues that both are fairly complex in terms of what goes up is going to come down, having proper precautions on the ground.

NASA DUPLICATION

Mr. COUGHLIN. You feel this is duplicative of what is done in NASA or Commerce or others?

Mr. BURNLEY. No. In fact, under the President's executive order and legislation passed by the Congress, those responsibilities were specifically assigned to the Department. We have certainly a great wealth of knowledge at NASA, and we are trying to draw on that to the extent we possibly can. Some of the launches very likely would occur from a NASA facility, which facility would be leased to the private operators, but we do not at this point see substantial overlap in that area.

In terms of the actual signing off responsibilities, the very purpose of creating this office was to put that in one place and to reduce the federal bureaucracy. Otherwise, you would have had to stop at a dozen agencies to get your ticket punched before you could launch.

DBE STUDY

Mr. LEHMAN. In House report 99-256, the Committee directed you to conduct a study assessing the effectiveness of departmental actions to implement section 105(f) of the Surface Transportation Assistance Act of 1982. On March 3, we received word that the study was delayed and would be completed by April 15. What is the status of this study?

[The information follows:]

The DBE study is presently being circulated within the Department for clearance and we expect to submit it in the near future.

DBE SET-ASIDE EFFECTIVENESS

Mr. LEHMAN. How effective has the section 105(f) minority business set-aside program been in your view?

Mr. BURNLEY. The 105(f) program has certainly resulted in a dramatic increase in the number of dollars going to disadvantaged business as defined under section 8 of the Small Business Act. We have some studies underway and the IG has been in this area, looking at the extent to which funds for business have been going to legitimate minority sector contractors, and to what extent, what are commonly called fronts, are a problem. I have to tell you, in all candor, I have looked at some preliminary data on that, and I don't think we have a good handle yet on where the line is being drawn by contractors. We are working on that.

There is no question that the 105(f) program has opened up a tremendous number of opportunities out there. There are also allegations that it has foreclosed some opportunities, but we are not certain to what extent that happens. Again, I think sometimes you can make too much of these trends and patterns, if you don't have enough information. What I do see, for whatever reasons, you don't have very many prime contractors who meet the DBE standards and most of the funds spent pursuant to 105(f) are for subcontracting. We find further that those subcontracts tend to cluster in certain subcategories, such as specialty contracting.

As a result, in one of the areas we have been looking at, and on which we don't yet have sufficient data, it is at least alleged that people who have tried to make their living at particular specialty subcontracting areas find that because they don't meet the DBE definition, they have been squeezed out, and can't bid on work.

So the situation defies description, I think. There are opportunities, no question, and there are costs I think without question. We are again in the process of looking at all that.

We had a contractor through the Federal Highway Administration who gave us a preliminary report recently. It was quite preliminary. The contractor, I think, had done a good job, but was under time constraints and was not asked to look at mass transit for more than a few States.

The Federal Highway Administration has extended that contract and asked the work and the scope of the study be dramatically extended both in terms of the categories of information we are seeking and also taking it over into the mass transit area. So, it will be some time before I think we have got a real good handle on this one.

EXTENSION OF HIGHWAY DBE SET-ASIDE

Mr. LEHMAN. Your proposed legislation to reauthorize the Federal-aid highway program does not extend the ten percent DBE participation provision. Mr. Barnhart told us that DOT was still working out "how to approach this particular program". He anticipated that you would "offer something", but he did not know what or when. Have you submitted an amendment to your reauthorization proposal yet that addresses the DBE program? If so, what would it require? If not, why not?

Mr. BURNLEY. The answer is we have not submitted an amendment and the reason we have not submitted one is that the discussions within the Executive Branch on how to approach this matter are still underway. We simply haven't come to a conclusion through the normal interagency discussion process.

Mr. LEHMAN. When do you think that will be?

Mr. BURNLEY. I don't know, Mr. Chairman. The clock is running on us and we are trying to do all we can to expedite the discussions in the Executive Branch but those discussions are still ongoing.

DBE DEFINITION

Mr. LEHMAN. One of the problems in our area is that when you divide this up between the Hispanics and the blacks in south Florida, the economic miracle among the Cubans has certainly put them on an equal or better basis to compete with the black American contractors. And there is a certain feeling they are really not the disadvantaged element anymore. In our society when you rewrite your authorization proposal I think the categorization of Hispanics and blacks on the same basis in areas such as Miami is certainly something you have to think about.

Mr. BURNLEY. I think your observation is a very astute one. It is an example of the problems you get into in this area when you try to define economic disadvantage in racial or ethnic or sexual terms. Inevitably those definitions have shortcomings and for all that, this is a problem in opening up opportunity in this area that we need to continue to work on.

As you know, the White House has recently reaffirmed President Reagan's support for set-aside programs and minority business programs generally and it is an area where the Administration thinks some special efforts are needed.

The question is how they work and that is where our internal discussions are still active.

[CLERK'S NOTE.—Additional information was provided for the record as follows:]

On April 10, 1986, Larry Speakes, Deputy Press Secretary for the White House, reaffirmed the President's position on minority procurement goals and the use of set-aside programs. Mr. Speakes did not specify the 10 percent highway DBE provision.

DBE FRAUD PREVENTION

Mr. LEHMAN. Last fall in response to my inquiry to the Inspector General (10-4-85) regarding DOT efforts to enforce regulations of the DBE program, the Inspector General reviewed current DBE program management policies and practices. They concluded that you need "to provide additional information and emphasis on oversight of the financial assistance programs to ensure that only eligible firms participate". What are you doing to implement the Inspector General's recommendations?

[The information follows:]

On December 18, 1985, the Inspector General wrote to each State Attorney General, each State Transportation or Highways Director, and each major State Transit Authority. The purpose of the letter was to announce that the Secretary of Transportation was directing the Inspector General to mount an offensive against fraud in the Disadvantaged Business Enterprise (DBE) program. Information was solicited regarding suspected frauds in the program which involve U.S. DOT-funded projects. The toll-free "Hotline" is intended to receive information concerning known or suspected fraud in the DBE program as well as other crimes which impact on our programs or personnel. The letter requests that a copy of the news release, or the information contained in it, be made available with each bid package distributed during the next six months. This will ensure that the contractors and suppliers are aware of the "Hotline" as well as on our major commitment to investigate abuses in the DBE program.

ADP CONSOLIDATION SAVINGS

Mr. LEHMAN. A few years ago the Grace Commission said DOT could save $46 million over three years by consolidating the ADP functions in your small administrations. We finally received a report on your ADP consolidation plans in which this $46 million savings has shrunk to $425,009. What happened to the remaining $45.5 million worth of savings projected by the Grace Commission?

[The information follows:]

The recommendation to consolidate ADP functions of five small modes and TCC is but one of three recommendations on which the PPSSCC based its estimate of $46.4 million. The others were to use structured procedures in ADP development and to increase time sharing at the Transportation Computer Center (TCC). DOT has made progress in all three areas and has estimated savings, through FY 1986, of $4.3 million. Information on the source of PPSSCC estimates is not available. Therefore, we cannot fully explain the difference between estimates.

DOT reviewed ADP functions in the small modes to identify items appropriate for private contracting. Under competitive procedures, DOT selected an 8(a) firm for consolidated operations and technical support of ADP services for FRA, MARAD NHTSA and UMTA. RSPA was not included because its ADP services already were being performed by a contractor. Our estimated savings of $425,000 is the difference between the in-house estimate and the contractor's estimate. The Grace Commission estimated a three-year savings of $14.71 million for consolidating these ADP functions. However, because the Commission's computations are not available, we are unable to explain the difference.

GRACE COMMISSION COST SAVINGS

Mr. Lehman. For the record, please provide a list of all Grace Commission recommendations for DOT; the projected cost savings associated with each recommendation; the implementation status of each recommendation; and the actual cost savings you will achieve over the same time period as identified by the Grace Commission.

[The information follows:]

DEPARTMENT OF TRANSPORTATION REPORT 5/2/86
PPSSCC RECOMMENDATIONS ($ Millions)

TRANS	RECOMMENDATIONS	STATUS	TOTAL DOT EST	FY 1985-1987 DOT	PPSSCC EST
01	Science Advisor & R&D Coordination		$206.0	$169.9	$284.1
01-1	Create R&D Policy Mechanism	I			
01-2	Create R&D monitoring structure	I			
01-3	Encourage Joint Transportation R&D	I			
02	Cash Management		11.7	10.0	144.4
02-1	Stop early payments by grantees	IP			
02-2	Require checks-paid method	NA			
02-3	Collect excess cash from grantees	IP			
02-4	Do not reimburse on accrued liability	IP			
02-5	Enforce regs on retained amounts	I			
02-6	Base grantee draw-downs on invoices	IP			
03	Grant Management & Control		64.8	0.0	163.5
03-1	UMTA/DOT new computerized system	I			
03-2	Select full-time project manager	I			
03-3	Select user team for new system	I			
04	Regional Offices & Support		1.0	0.7	45.0
04-1	Reduce DOT regions from 10 to 6	IP			
04-2	Cut UMTA Civil Rights staff: 28 to 9	NA			
04-3	Cut NHTSA Budget & Fiscal staff: 38-24	NA			
04-4	Cut MARAD Budget & Fiscal staff: 51-28	I			
04-5	Cut DOT Personnel staff; go from 42% to 75% of private sector productivity	UR			
05	ADP		4.3	4.3	46.4
05-1	Consolidate ADP in FRA, NHTSA, UMTA, MARAD, RSPA & TCC	I			
05-2	Set structural procedures for all ADP	I			
05-3	Fully use TCC time sharing services	I			
06	FHWA Categories		0.0	0.0	983.1
06-1	Consolidate special-purpose programs	I			
06-2	Revenue turnback to States	I			
06-3	Multi-year funding	NA			
06-4	Increase transferability	NA			
07	FHWA Regulations		0.0	0.0	223.4
07-1	Simplify CEQ regs & DOT Order	UR			
07-2	Eliminate/modify Section 4(f) & regs	IP			
07-3	Eliminate Section 106 regs	NI			
07-4	Amend Clean Water Act	NI			
08	Reorganize Land Modes (FHWA & UMTA)	NI	0.0	0.0	71.3

TRANS	RECOMMENDATIONS	STATUS	TOTAL DOT EST	FY 1985-1987 DOT	PPSSCC EST
09	UMTA Requirements for Grantees		$0.0	$0.0	$65.6
09-1	Review documents required of grantees	I			
09-2	Identify requirement costs	NI			
09-3	Obtain "cost-per-requirement" data	NI			
09-4	Obtain changes in authorizations	I			
10	FRA Safety/R&D Consolidation		15.5	9.6	81.9
10-1	Consolidate R&D with Safety in FRA	I			
10-2	User fees on FRA's RR assessments	NI			
10-3	Implement R&D user fees	NI			
10-4	"Privatize" FAST	I			
10-5	Reinstate fines in safety violations	NA			
11	Establish Land Safety Administration	NI	0.0	0.0	14.9
12	Grantee Land Acquisition		1.4	0.0	11.4
12-1	Decrease FHWA role in right-of-way	NI			
12-2	Forecast ROW activity & staff needs	I			
12-3	Reevaluate present staffing	I			
12-4	Reduce staff in ROW	I			
13	Federal Lands Roads Programs		0.0	0.0	17.9
13-1	Put all such programs in DOT	I			
13-2	Finance them from the Trust Fund	I			
14	End Uniform Tire Quality Grading Sys	NI	0.0	0.0	3.3
15	FAA Organization and Staffing		0.0	0.0	445.4
15-1	Consolidate FAA Regional Centers	IP			
15-2	Consolidate FAA ARTCC's	IP			
16	Close Low-Volume Towers		6.0	0.0	150.9
16-1	Close Towers by FAA criteria	IP			
16-2	Reduce operating hours at many towers	IP			
16-3	"Privatize" many towers	IP			
16-4	Set procedures to continue analysis	I			
16-5	Develop & publicize comprehensive plan	I			
17	Fees at MWA Equal To Other Airports	NA	0.0	0.0	57.5
18	Consolidate FAA Flight Services		12.5	4.1	39.6
18-1	Comprehensive plan to consolidate FSS	I			
18-2	Consolidate immediately	IP			
19	Shift Cost of USCG Services		864.0	388.0	1,572.7
19-1	Coast Guard user fees	IP			
19-2	Commercial Search & Rescue demo	IP			
19-3	Private maintenance - short-range Aids	IP			
19-4	Commercial safety services	IP			
19-5	Transfer VTS to local government	IP			

TRANS	RECOMMENDATIONS	STATUS	TOTAL DOT EST	FY 1985-1987 DOT	PPSSCC EST
20	MARAD Subsidy Program				$75.4
20-1	End ODS for Non-competitive Pref Cargo	IP	$60.0	$20.0	
20-2	Develop "fair & reasonable" guidelines	I	36.0	12.0	
21	Reform Ship Financing Program		38.5	25.7	26.5
21-1	Allocate Title XI by priorities	I			
21-2	Set finance terms to priorities	I			
21-3	Investigative and guarantee fees	I			
22	Federal Funds for Maritime Education		1.5	1.4	29.5
22-1	Tuition at Kings Point (USMMA)	NI			
22-2	Reduce students 30 percent at USMMA	I			
22-3	Limit student aid at State Academies	NI			
SUBTOTAL, DOT REPORT			1,323.2	765.7	4,553.7
	OTHER REPORTS				
CAB 01	Reduce staff to 350 by sunset date	I	12.5	7.9	7.4
CAB 02	Pass early sunset legislation	I	0.0	0.0	3.1
CAB 03	Fitness determination to FAA	I	0.0	0.0	1.3
CAB 04	Cost-sharing (EAS program)	IP	120.0	120.0	31.1
CCE 2A	Close 15 Unneeded USCG Stations	IP	5.0	5.0	102.6
CCE 2B	Terminate Cardinal Train (AMTRAK)	UR	7.0	7.0	7.8
CONST 09	Repeal Section 4(f)	NI	0.0		(25.2)
CONST 13	Methods to Mitigate Highway Noise	NA	0.0	0.0	703.0
CONST 18	Performance Specs	NA	0.0	0.0	604.9
CONST 19	Value Engineering	NA	0.0	0.0	1,058.7
CONST 21	Project Management	NA	0.0	0.0	381.9
CONST 23	Life-Cycle Costing	NA	0.0	0.0	No Est
EX 01	Improve Implementation of A-76	IP	57.5	24.3	No Est
PPAV 01	Publishing, Printing, Audiovisual	IP	5.4	5.4	331.0
PRIVAT 06	Sell National and Dulles Airports	IP	0.0	0.0	454.5
PRIVAT 08	Private Supply of USCG Services (Part in TRANS 19); Net PRIVAT 08	IP	(864.0) 0.0	 0.0	(1,249.4) 61.4

TRANS RECOMMENDATIONS	STATUS	TOTAL DOT EST	FY 1985-1987 DOT	PPSSCC EST
USER 16 USCG User Fees (in TRANS 19)	IP	($864.0)	0.0	($418.2)
USER 21 FHWA Reporting Systems for Pricing	NA	0.0	0.0	1,986.0
SUBTOTAL, NON-DOT REPORT (NET)		$ 207.4	$765.7	$5,734.7
SUBTOTAL, DOT REPORT		$1,323.2	$ 49.6	$4,553.7
GRAND TOTAL		$1,530.6	$816.3	$10,288.4

NOTES

Status Codes:

I--Implemented; IP--Implementation in Progress; UR--Under Review;
NI--Not to be Implemented; NA--Not Applicable (no change required).

Parentheses denote items included in other recommendations; not added.

The Grace Commission estimated three-year savings, but did not identify fiscal years in which savings applied. Since the Commission report was not fully published until FY 1984, this table assumes FY 1985 through FY 1987 as the "same period" estimated by the Commission.

ICC SUNSET LEGISLATION

Mr. LEHMAN. The Secretary told us in February that legislation to sunset the ICC would be submitted shortly. What is the status of this legislation?

[The information follows:]

A draft bill to sunset the ICC prepared by the Department is in the final stages of interagency review under the OMB clearance process and should be submitted to Congress in the next few weeks.

ICC INPUT IN SUNSET BILL

Mr. LEHMAN. Regarding your ICC Sunset legislation, on February the 25, Chairman Gradison told us that she had not seen any of your draft proposals nor had she had any input in drafting this legislation. Why aren't you consulting with the ICC in drafting this legislation? Surely they know more about their operations and responsibilities than the Department does.

Mr. BURNLEY. Mr. Chairman, we are consulting and I am frankly pleased you asked this question, because I inadvertently got into, I think, a misunderstanding of that generally in front of Senator Andrews' subcommittee, when I testified right after Chairman Gradison. She had just left, and I was asked the question have we been talking to them and I think we have.

I think where the misunderstanding and confusion came up was this: The ICC is an independent agency. They are not a part of the Executive Branch and, therefore, they do not formally participate in the OMB interagency clearance process on legislation.

However, we agree that they know more about their operations and responsibilities than we do and as a result, we have had informal discussions with them. We have shown our draft legislation to them and sought their comments and input but those are not in the normal legislative sign-off process that OMB runs for the various departments and agencies. It is being done as a side exercise informally.

But we are consulting, and the more serious substantive discussions by far have occurred since February 25 when she testified here. We have been in touch with them on this and they have seen our draft bill.

RAIL REGULATORY BUDGET AFTER SUNSET

Mr. LEHMAN. The ICC's fiscal year 1987 budget request for its rail regulatory program is $18.7 million and 292 staff years. The combined DOT and DOJ fiscal year 1987 request to perform these same functions is a little more than $11 million. How do you intend to absorb the $8 million difference?

Mr. BURNLEY. In both our Department and the Department of Justice we have already on our respective staffs people who have expertise in rail anti-trust issues, in particular at the Department of Transportation.

We have some people who have a good deal of knowledge about rail regulatory issues across the whole spectrum so we would expect—and that is the reason we have drafted the budget in this fashion—that we could achieve substantial economies by ICC sunset. We do believe that because of the existing staff at those two departments, it will be possible to absorb the $8 million difference without difficulty.

RAIL REGULATORY FUNCTIONS AFTER SUNSET

Mr. **Lehman**. Do you intend to reduce the scope of or eliminate any existing rail regulatory functions if the sunset and transfer of functions is approved? If so, which ones? Also, which of the functions transferred to DOT would receive highest priority?

Mr. **Burnley**. To the extent you will allow me, I will duck on this because we are very actively involved right now in discussions with Justice and OMB and our side bar discussion with the ICC about just how to define the scope and where the responsibility should rest.

So I don't mean to be unresponsive, but it would really be inappropriate and I would probably end up misleading you because we haven't finished those talks.

Mr. **Lehman**. Would you write to the Committee as soon as possible?

Mr. **Burnley**. Absolutely, as soon as those discussions are over.

Mr. **Lehman**. Under your sunset proposal, which offices would absorb the rail regulatory functions that would be transferred to DOT?

[The information follows:]

Various organizational options for incorporating rail regulatory functions into DOT are stil being studied. Based on our experiences subsequent to CAB sunset, we believe that more than one type of organizational plan would be feasible. During the planning process for ICC sunset, we will carefully evaluate the relative merits of creating a new office in OST, dispersing functions throughout several offices within OST, or placing rail regulation in a location other than OST. As we did at the time of CAB sunset, we will develop a detailed plan for absorbing the remnant ICC functions, giving consideration to statutory requirements, staffing and budget, organizational efficiency, and other considerations.

Mr. **Lehman**. How do you plan to ensure that independence in the rail regulatory decisionmaking process is preserved?

[The information follows:]

Our elimination of the commission form of organization after sunset of the CAB has not caused any problems in handling aviation cases. Although we are still exploring organizational options for rail regulation if ICC sunset occurs, it is relatively unlikely that a commission form of organization would be adopted. We believe that more streamlined procedures can be equally effective or more effective.

We appreciate the need to assure due process and proper separation of functions in all of the proceedings that transfer from the ICC; a similar situation occurred when the CAB was sunsetted and its residual functions transferred to DOT in 1985. It should be noted that DOT is currently successfully handling former CAB cases without any major problems, and we will draw upon this experience in developing a similar plan for handling rail regulatory matters.

SHIPPER COMPLAINT PROCESS AFTER SUNSET

Mr. **Lehman**. Do you intend to maintain existing ICC administrative procedures followed by shippers in filing complaints and protests? If not, why, and do you then intend to establish a new or revised set of procedures?

[The information follows:]

We certainly recognize the need for clear, well understood administrative procedures. Although the details have not been worked out, we anticipate the procedures developed and lessons learned pursuant to the CAB sunset would provide general guidance in the mechanics of implementation and maintenance of procedures to meet shippers' needs and the requirements of due process. In the CAB situation, all existing procedures were continued essentially unchanged.

Mr. LEHMAN. You are proposing to perform the ICC rail functions with a smaller budget. How will you assure that protests and complaints receive timely and adequate review?

[The information follows:]

Pursuant to our experience following CAB sunset, we believe that a more streamlined administrative structure can be developed to handle existing ICC rail regulation functions. We anticipate simpler decisionmaking procedures and fewer levels of review for many rail matters.

SAFETY STATISTICS BY MODE

Mr. LEHMAN. For the record, would you provide data comparing fatalities per passenger miles traveled and fatalities per vehicle miles traveled by mode for each of the past five years? Please break down airline travel by commercial and private.

[The information follows:]

Fatality information is collected from state sources and is not yet complete for 1985. For this reason, the accompanying tables show the years 1980 through 1984 plus the modal data currently available for 1985. Passenger miles and vehicle miles traveled information are not available for all modes for all years. The tables show this information where it is available and show also vehicle-hour data where that may be a useful safety measure.

SAFETY STATISTICS FOR SURFACE MODES

	1980	1981	1982	1983	1984	1985 (1)
Highway						
Total Modal Fatalities (2)	50,035	47,862	43,945	42,589	44,257	43,500
Total Vehicle-Miles (Billions)	1,521	1,551	1,592	1,651	1,726	NA
Total Persons-Miles (Billions)	2,652	2,545	2,699	2,771	2,897	NA
Fatalities/100 Million Veh-Mi	3.34	3.17	2.76	2.58	2.55	—
Fatalities/100 Million Person-Mi	1.89	1.88	1.63	1.53	1.53	—
Transit (non-highway)						
Total Modal Fatalities	83	103	82	50	62	NA
Total Vehicle-Miles (Billions)	2.1	1.5	NA	1.5	NA	NA
Total Person-Miles (Billions)	NA	28.5	NA	34.4	NA	NA
Fatalities/100 Million Veh-Mi	3.9	6.7	—	3.2	—	—
Fatalities/100 Million Person-Mi	—	.36	—	.14	—	—
Rail						
Total Modal Fatalities (3)	717	684	619	573	746	532
Total Train-Miles (Millions)	718	676	573	558	593	NA
Total Person-Miles (Millions)	10,995	11,415	10,542	111.36	NA	NA
Fatalities/100 Million Train Miles	99.9	101.2	108.	102.7	125.8	—
Fatalities/100 Million Person-Mi	6.5	6.0	5.9	5.1	—	—
Water						
Total Modal Fatalities (4)	1,566	1,360	1,401	1,530	1,142	1,185

NOTES:
(1) Data not complete for 1985.
(2) Includes all motor vehicle accident fatalities plus pedestrian, bicycle and motor vehicle occupant grade crossing fatalities.
(3) Includes passengers, non-passengers, employees, trespassers and non-motor vehicle portion of grade crossing fatalities.
(4) Includes waterborne transportation and recreational boating for which no passenger mile, vehicle mile or vehicle hour data are available.

SAFETY STATISTICS FOR AVIATION

	1980	1981	1982	1983	1984	1985
All Commercial Aviation (5)						
Total Fatalities	143	132	320	89	104	638
Aircraft HRS Flown (Million)	11.145	10.946	10.211	10.851	11.188	12.222
Fatalities/100,000 HRS	1.283	1.206	3.134	0.820	.930	5.220
Scheduled Carriers (14 CFR 121)						
Fatalities	0	4	233	15	4	197
Passenger Miles (Billions)	255.2	248.9	259.0	281.8	304.5	322.
Aircraft Miles Flown (Millions)	2816	2703	2699	2809	3114	3296
Aircraft Hours (Millions)	6.798	6.571	6.440	6.649	7.365	7.831
Fatalities/100 Million Pas-Mi	0	.002	.090	.005	.001	.061
Fatalities/Million A/C Miles	0	.001	.086	.005	.001	.060
Fatalities/100,000 HRS	0	.061	3.618	.226	.054	2.516
Commuter Carriers (14 CFR 135)						
Fatalities	37	34	14	12	48	35
Aircraft Miles Flown (Million)	192.2	194.0	222.4	253.6	291.5	272.2
Flight Hours (Millions)	1.176	1.241	1.300	1.511	1.746	1.599
Fatalities/Million A/C Miles	.192	.176	.063	.043	.165	.129
Fatalities/100,000 HRS	3.146	2.740	1.077	.794	2.749	2.189
Non-Scheduled Carriers (14 CFR 121)						
Fatalities	1	0	1	0	0	329
Aircraft Miles Flown (Millions)	107.9	95.4	105.5	114.0	127.5	133.0
Flight Hours (Millions)	.269	.239	.262	.282	.320	.333
Fatalities/Million A/C Miles	.009	0	.009	0	0	2.474
Fatalities/100,000 HRS	.371	0	.381	0	0	98.799
On-Demand Air Taxis (14 CFR 135)						
Fatalities	105	94	72	62	52	77
Flight Hours (Millions)	3.618	2.895	3.257	2.574	3.079	3.131
Fatalities/100,000 HRS	2.902	3.247	2.209	2.409	1.767	2.459
General Aviation (Private) (6)						
Fatalities	1239	1282	1182	1081	1114	937
Flight Hours (Millions)	36.401	36.803	32.094	31.048	31.510	32.023
Fatalities/100,000 FLT HRS	3.398	3.483	3.683	3.482	3.535	2.926

NOTES: (5) includes all air carriers but not private passenger carrying aircraft, such as corporate aircraft.

(6) includes private transportation, plus instructional, air application, recreational, etc. flying for which flight miles are not available.

DRUG ABUSE RESEARCH

Mr. **Lehman**. I understand you have undertaken a multimodal research program to assess the effects on safety of drug use by transportation operators. Would you please describe this research program, its status, any results or findings to date, and its annual cost?

[The information follows:]

The research program is designed to help the department identify real or potential safety programs caused by the use, misuse, or abuse of licit and illicit drugs by transportation operators. The project consists of a literature survey and review of completed and ongoing research with the following objectives:

1. Identifying licit and illicit drugs that have potential to cause transportation safety problems.
2. Surveying the state of knowledge regarding the specific effects of these drugs on operations critical to transportation in all modes.
3. Reviewing methods to evaluate the current capability to detect and measure drug levels in individuals.
4. Assessing the quality and limitations of available data and information, including confirmed instances of transportation operator drug usage problems.

The project will be completed in fiscal year 1986, with a draft final report due by the end of June 1986. The project is being conducted by the Transportation Systems Center with total funding of $55,000.

It should be noted that there is no current indication that drug use by transportation operators constitutes a safety hazard comparable to the known dangers of alcohol use. Certain anecdotal and circumstantial evidence, however, especially the degrees of drug use in the general population, raises suspicions and makes it essential to determine the scope of the drug problem, if one exists. The result of this research project will help determine the next steps to be taken.

Mr. **Lehman**. We are finding out now whether this is an amendment and then final passage. If it is, it is going to take a while.

JUSTIFICATIONS

Mr. **Lehman**. To cooperate with you we are going to put your justification questions in the record and ask that you respond.

TPR&D MERGER

Mr. **Lehman**. Would you please explain why you are proposing to merge the "Transportation, planning, research and development" account into the salaries and expense account?

[The information follows:]

The dollar level of the Transportation Planning, Research and Development appropriation has been decreasing over the past few years—from $12.5 million in 1979 to $3.5 million in 1986.

Since a substantial portion of these funds are now for salaries and related administrative costs, it became apparent that a merger with the Salaries and Expenses account, where similar activities are performed, would result in efficiencies.

TPR&D OBLIGATIONS

Mr. **Lehman**. For the record, please provide an office-by-office breakdown of TPR&D obligations for fiscal year 1985 and estimated obligations for 1986 and 1987 by program activity and object classification.

[The information follows:]

TPR&D OBLIGATIONS
(in thousands of dollars)

	FY 1985 Actual	FY 1986 Estimate (After Sequestering)	FY 1987 Estimate
Commercial Space Office:			
PC&B	---	100.0	---
Contracts	105.5	735.0	1,600.0
Total CSO	105.5	835.0 1/	1,600.0
Governmental Affairs:			
Contracts	105.1	100.0	150.0
Budget & Programs (adj)	(-54.1)	---	---
Policy:			
PC&B	1,932.9	1,860.0	---
Travel	25.6	47.0	
Printing	57.6	)	
Supplies	6.4	)174.0	
Equipment	77.9	)	
Contracts	2,543.4	968.0	1,200.0
Total Policy	4,643.8	3,049.0	1,200.0
Unallocated Reserve	---	827.0 2/	---
TOTAL-Research and Development	4,800.3	4,811.0	2,950.0 3/

1/ Includes carryover of $685.0 from FY 1985.

2/ The major portion of this FY 1985 carryover is being made available to support temporary cost increases associated with reducing Policy staff by attrition to the proposed FY 1987 level. The balance will be used to fund cost increases for ongoing contracts at TSC.

3/ Personnel and administrative support costs have been merged into the General Administration category of the Salaries and Expenses appropriation in FY 1987.

STAFFING BREAKDOWN

Mr. **Lehman**. Please update the staffing and funding table for OST offices found on page 803 of last year's hearing record by adding a fiscal year 1987 column. Please include FTE's as well as permanent positions.

[The information follows:]

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COMPARISON OF PERMANENT POSITIONS AND FUNDING REQUIREMENTS 1/
(Dollars in thousands)

Office	FY 1985 Actual				FY 1986 Estimate After Sequestering				FY 1987 Estimate			
	Permanent Positions	FTE 2/ Empl.	Personnel Comp and Benefits	Other Costs	Permanent Positions	FTE Empl.	Personnel Comp and Benefits	Other Costs	Permanent Positions	FTE Empl.	Personnel Comp and Benefits	Other Costs
General Counsel	121	109	$ 5,173	125	115	112	$ 5,161	$ 160	115	112	$ 5,220	$ 160
Policy & Int'l Affairs	198	160	9,249	2,885	184	165	9,148	1,366	182	181	9,134	1,416
Budget & Programs	45	43	2,084	37	42	40	2,040	46	42	40	2,064	46
Govt. Affairs	60	60	2,245	129	56	57	2,404	184	54	56	2,391	234
Administration	192	189	8,375	12,017	177	188	9,124	10,906	173	185	9,094	13,706
Public Affairs	35	32	1,322	29	31	29	1,368	58	30	28	1,342	58
Secretarial Offices	158	162	7,019	3,891	145	152	6,884	3,594	113	135	6,115	5,560
Immed. Office Secy/ Contract Appeals Board	65	71	3,343	176	64	67	2,874	277	64	68	2,913	227
Civil Rights	26	26	1,228	86	24	26	1,201	43	24	26	1,217	43
Small & Disad. Bus. Util.	16	20	667	3,442	14	17	802	2,930	14	17	811	3,559
Commercial Space Transportation	11	15	413	180	9	10	382	246	11	14	579	1,696
Essential Air Service	40	30	1,368	7	34	32	1,625	98	0	10	595	35
TOTAL	809	755	$35,467	$19,113	750	763	$36,129	$16,314	709	737	$35,360	$21,180

1/ Includes costs and staffing associated with research and development functions.

2/ Estimated (FTE data by Assistant Secretary is not available for FY 1985.) Includes 3/4-year CAB transferees.

Mr. LEHMAN. Please also update for the record the OST staffing/employment table found on page 805 of last year's hearing record. You may drop the 1983 column.

[The information follows:]

DEPARTMENT OF TRANSPORTATION
OFFICE OF THE SECRETARY
AUTHORIZED POSITIONS AND EMPLOYMENT
FY 1984-1987

	FY 1984 Actual			FY 1985 Actual 2/			FY 1986 Estimate (After Sequestering)		FY 1987 Estimate	
	Auth	EOY Employment		Auth.	EOY Employment		Auth.	Est.	Auth.	Est.
	Pos.	Est.	Act	Pos.	Est.	Actual	Pos.	EOY	Pos.	EOY
Salaries & Expenses										
General Counsel	59	56	57	121	117	112	115	109	115	109
Policy & Intl. Affairs 1/	110	105	103	198	193	192	184	175	182	173
Budget and Programs	44	42	39	45	43	38	42	40	42	40
Governmental Affairs	41	39	35	60	58	50	56	53	54	51
Administration	165	157	144	192	184	176	177	168	173	164
Public Affairs	31	29	27	35	33	25	31	29	30	29
Secretarial Offices	112	105	107	158	152	133	145	138	113 1/	107 1/
Subtotal	562	533	512	809	780	726	750	712	709	673
Working Capital Fund										
Administration	332	320	271	316	326	299	318	302	309	293
Reimbursements										
General Counsel	1	1	1	1	1	1	2	2	2	2
Policy & Intl. Affairs	2	2	2	2	2	2	2	2	2	2
Administration	---	---	---	---	---	---	---	---	---	---
Secretarial Offices	---	---	---	---	---	---	---	---	---	---
Subtotal	3	3	3	3	3	3	4	4	4	4
GRAND TOTAL-OST	897	856	786	1,158	1,121	1,208	1,072	1,018	1,022	970

1/ Includes positions associated with research and development activities.

2/ Includes 259 positions transferred from CAB.

RECEPTION AND REPRESENTATION FUNDS

Mr. LEHMAN. For the record, please also update the breakdown for reception and representation funds similar to what appears on page 806 of last year's hearing record by adding fiscal year 1986 and fiscal year 1987 columns.

[The information follows:]

Of the $36,500 appropriated to the Office of the Secretary for Reception and Representation expenses in fiscal year 1985, obligations incurred amounted to $34,202. Of this amount, $19,417 was obligated for use in foreign countries for official receptions and other scheduled functions to facilitate the achievement of the Department's objectives abroad, and to reciprocate for similar functions held by host countries. The remaining $14,785 was used for small luncheons, dinners, parties, or receptions for high-level representatives from both government and industry. The $30,000 requested for 1987 is the same level initially approved by Congress for 1986. The distribution for 1987 has not yet been established. A breakdown of the fiscal years 1985 and 1986 amounts follows:

	Fiscal year—	
	1985	1986[1]
Federal Highway Administration	$1,984	$532
National Highway Traffic Safety Administration	0	0
Federal Railroad Administration	280	224
Urban Mass Transportation Administration	674	95
Federal Aviation Administration	7,800	2,550
U.S. Coast Guard	4,892	1,435
Maritime Administration	5,100	2,758
Inspector General	0	60
Research and Special Programs Administration	400	20
Office of the Secretary	13,072	7,958
Total	34,202	15,632

[1] As of March 31, 1986

MINORITY BUSINESS RESOURCE CENTER OBLIGATIONS

Mr. LEHMAN. Last year you estimated fiscal year 1985 obligations for the Minority Business Resource Center to be $5.1 million. Yet, according to your fiscal year 1987 budget justification, actual obligations were only $3.4 million. Why were fiscal year 1985 MBRC obligations a third less than you had estimated?

[The information follows:]

Fiscal year 1985 obligations were less than estimated in the 1986 budget due largely to a deobligation for Amtrak venture capital. The venture capital and bonding funds which have been obligated over the past several years are under constant review, and when they are not utilized as effectively as originally anticipated, or if a contractor is not interested in continuing, the funds are deobligated and become available for new MBRC contracts.

Mr. LEHMAN. What is the current MBRC unobligated balance?

[The information follows:]

The MBRC unobligated balances as of 3/31/86 totals $3,521,600.

OST UNOBLIGATED BALANCE

Mr. LEHMAN. Please provide for the record a breakdown of your fiscal year 1985 unobligated balance by program activity.

[The information follows:]

Fiscal Year 1985 Unobligated Balance by Program Activity

[Dollars]

General Administration (lapsed)	$631,991
Minority Business Resource	3,570,679
Research and Development	1,462,153
Total	5,664,823

FISCAL YEAR 1985 LAPSED FUNDS

Mr. **Lehman**. Why did you lapse $632,000 in fiscal year 1985?

[The information follows:]

Savings in the areas of printing, supplies and materials, and rents, communications and utilities account for the lapsing funds in fiscal year 1985.

REIMBURSABLE PROGRAM

Mr. **Lehman**. Please provide for the record a breakdown of your reimbursable program for fiscal years 1985, 1986 and 1987 similar to what appears on page 807 of last year's hearing record.

[The information follows:]

SALARIES AND EXPENSES, OFFSETTING COLLECTIONS

[In thousands of dollars]

Program	Fiscal year—		
	1985	1986	1987
Policy and international affairs:			
Agency for International Development	240	176	176
Saudi Arabia	835	2,740	2,740
General counsel: Honors and Inspector General attorneys	307	468	418
Secretarial offices:			
Appeal hearings	68	40	40
Investigation of EEO complaints	16	35	35
Administration:			
Rental for parking garage			
Training programs	574	500	500
Other miscellaneous	194	141	91
Total	2,234	4,100	4,000

RESEARCH AND DEVELOPMENT COSTS

Mr. **Lehman**. Please also provide for the record a detailed breakdown of the fiscal years 1985, 1986 and 1987 research and development costs shown on page 6 of your budget justification.

[The information follows:]

Research and Development Costs

(in thousands of dollars)

Object Category	FY 1985 Actual	FY 1986 Estimate 1/	FY 1987 Estimate 3/
Personnel Compensation	1,754.8	1,605.0	
Personnel Benefits	178.2	175.0	
Travel	25.6	50.0	
Communications & Utilities	---	65.0	
Printing	57.6	50.0	
Contracts	2,699.9	2,908.0	2,950.0
Supplies	6.4	9.0	
Equipment	77.9	100.0	
TOTAL	4,800.4	4,962.0 2/	2,950.0

1/ FY 1986 enacted (estimated) amount before sequestering.

2/ Includes $1,462.0 carryover from FY 1985.

3/ Personnel and administrative support costs for research and development in FY 1987 have been merged into the General Administration category of the Salaries and Expenses appropriation.

SPECIAL PERSONAL SERVICES

Mr. LEHMAN. On page 10, why are you proposing to increase "special personal services" payments for fiscal year 1987 by about 77 percent over fiscal year 1986—from $143,000 to $253,000?

[The information follows:]

In the FY 1987 request, an additional $110,000 is included in this category in the Office of Commercial Space Transportation. This amount is required for reimbursement to other agencies, such as the Department of the Air Force, for technical analysis support from their staff resources.

Mr. LEHMAN. Please provide for the record a breakdown of special personal services payments for fiscal years 1984, 1985, 1986 and 1987. Please list the names of any individuals receiving such payments.

[The information follows:]

SPECIAL PERSONAL SERVICES PAYMENTS

(in thousands of dollars)

	FY 1984	FY 1985	FY 1986 (as of 3/31/86)	FY 1987 2/ Estimate
Office of the Secretary 1/ (Subsistence Specialists)				
Simbulan, J.N.	33.2	36.2	18.8	
Paraiso, J.J	27.2	28.5	15.0	
Razon, R.S.	24.0	---	---	
Wilder, D.R.	20.6	22.9	11.9	
Buchert, G.R. EOD 2/1/84	11.4	22.8	11.9	
Tumlin, L. EOD 9/1/84	1.4	23.4	9.5	
Subtotal	117.8	133.8	67.1	143.0
Office of Budget & Programs				
Morabito, Edward	32.3	8.4	---	
Office of Public Affairs				
Quinn, Frederick	61.5	---	---	
All Total	211.6	142.2	67.1	143.0

1/ Includes two billings totaling 53.8 from the Coast Guard received too late for inclusion in 1984 accounting data.

2/ Salaries for personnel assignments cannot be projected due to transfers and/or retirement of assigned personnel.

TRAVEL COSTS

Mr. LEHMAN. On page 10 explain the 24 percent increase in travel expenses between fiscal years 1985 and 1986—from $524,000 to $650,000.

[The information follows:]

The $650 thousand FY 1986 estimate is the combined total for Salaries and Expenses and TPR&D, and it was subsequently reduced to $622 thousand by Gramm-Rudman-Hollings legislation. Of the $98 thousand increase, $60 thousand is for full year funding of transferred CAB functions, 26 thousand is for the Commercial Space Office, and the remaining $12 thousand provided partial restorations of a travel freeze imposed during the last quarter of FY 1985.

Mr. LEHMAN. Please provide for the record an update of the travel data found on page 809 of last year's hearing record for fiscal years 1982, 1983, 1984, 1985, 1986 and 1987. Please show a separate breakdown for the Secretary's immediate office and the Deputy Secretary's immediate office.

[The information follows:]

Salaries and Expenses
Travel and Transportation of Persons
(in thousands of dollars)

	Fiscal Year					
	1982 Actual	1983 Actual	1984 Actual	1985 Actual	1986 After Seq.	1987 Est.
General Counsel	$45	$45	$72	$74	$60	$60
Policy & Int'l Affairs	66	70	120	122 1/	167 1/	159 1/
Budget and Programs	6	6	6	4	8	8
Governmental Affairs	14	15	18	15	22	22
Administration	59	74	87	62	60	60
Public Affairs (estab. Sept. 1983)	--	--	9	6	10	10
Secretarial Office	159	188	230	216	295	282
Immediate Office of the Secretary	(55) 2/	(29)	(53)	(43)	(72)	(72)
Deputy Secretary	--	(17)	(2)	(3)	(37)	(37)
CAB Transition 3/	--	--	--	25	--	--
TOTAL	$349	$398	$542	$524	$622	$601

1/ Includes travel related to research and development functions.

2/ Travel costs below this organizational level not available in the accounting data.

3/ Civil Aeronautics Board travel claims pending and not obligated as of 12/31/84. Paid as part of CAB transition costs.

COMMUNICATIONS, UTILITIES AND OTHER RENT

Mr. **LEHMAN**. Last year you attributed your 22 percent estimated decrease in "communications, utilities, and other rent" to an anticipated annual cost savings of $400,000 from a new telephone switching system. On page 10, I see that you have now revised that number upwards by $174,000—from $1.1 million to $1.278 million. Why are your 1986 communications, utilities and rent costs 16 percent greater than estimated? What happened to the telephone costs savings you expected?

[The information follows:]

As a result of delays experienced in installation of the new telephone switch expected savings in FY 1986 are not as great as was originally anticipated. Our FY 1986 request optimistically assumed installation of the switch in October 1985, switch over to the new system is now scheduled for July. By keeping telephone moves and changes to an absolute minimum, carefully monitoring expenditures, and reprogramming, the shortfall was held to a minimum.

TELEPHONE SYSTEM

Mr. **LEHMAN**. Please provide for the record a status report on the installation of your new telephone switching system including a comparison of your originally planned installation dates, costs, and savings with your latest estimates. Please also include an explanation for any schedule slippages or cost increases.

[The information follows:]

The installation of the new Departmental Headquarters Telephone System is nearing completion with a scheduled implementation date of July 14, 1986. This implementation date represents a 9-month slippage from the original target of October 1985. The delay is the result of the optimistic schedule originally established combined with the difficulties of accomplishing multiple site preparation and building modifications. A slippage in installations of systems such as this one is not unusual in view of the complexity and changing environment. The originally estimated savings of up to $50 million over 10 years is still appropriate. The total initial cost of the system is $9.6 million and remains well under the original estimate of $12.5 million.

PRINTING AND REPRODUCTION

Mr. **LEHMAN**. Please provide for the record a breakdown of your printing and reproduction costs for fiscal years 1984, 1985, 1986 and 1987.

[The information follows:]

PRINTING COSTS

[In thousands of dollars]

	1984 [1]	1985	1986	1987
Printing	$379	$364	$389	$381
Hot Copy	213	205	218	214
Distribution	278	268	285	279
Photographic	68	66	70	68
Total	938	903	962	942

[1] Reflects actual bills paid for fiscal year 1984.

OTHER SERVICES

Mr. **Lehman**. Similarly on page 10, would you explain why you revised your estimated fiscal year 1986 expenditures for "other services" upwards from $8.297 million in last year's budget justification to $15.076 million in this year's justification?

[The information follows:]

The higher estimates for FY 1986 Other Services in the FY 1987 budget is the result of: merging the TPR&D appropriation, along with a $1.5 million carryover; and a large unplanned carryover for MBRC.

Mr. **Lehman**. Also for fiscal year 1987 you are proposing $12.928 million for "other services"—that is a 14 percent reduction from 1986, but a 6 percent increase over fiscal year 1985. Would you explain why your expenditures for "other services" are fluctuating up and down so much?

[The information follows:]

A large unplanned carryover from FY 1985 for the MBRC is included in the "other services" category for FY 1986. After making adjustment for this, the levels are essentially constant.

Mr. **Lehman**. Please update the "other services" breakdown found on pages 811 through 813 of last year's hearing record by adding a fiscal year 1987 column.

[The information follows:]

COMPARISON OF OTHER SERVICES SALARIES AND EXPENSES—FISCAL YEAR 1985–87

[In thousands of dollars]

	(After sequestering)		
	FY 1985	FY 1986	FY 1987
General counsel:			
Litigation, enforcement, public counsel and contract services	75	100	100
Policy and International Affairs:			
Translation services	27	10	10
Interpreter services	34	15	15
Technical reports	6	6	6
Other services (includes research and development)	2,543	994	1,226
Total	2,610	1,025	1,257
Governmental Affairs:			
Technology sharing documents control center		46	46
Other support services	5	16	16
Research and development	105	100	150
Total	110	162	212
Budget and Programs:			
General contracts	1	9	8
Public Affairs:			
Special events (TV/Radio News)	5	4	4
Distribution of materials	24	44	44
Total	29	48	48
Administration:			
Training/Executive development	272	125	125
ADP services	2,650	2,190	2,722
Maintenance and repair	61	90	90
Building alterations	233	50	50
USCG clinic	60	65	65

COMPARISON OF OTHER SERVICES SALARIES AND EXPENSES—FISCAL YEAR 1985-87—Continued

[In thousands of dollars]

	(After sequestering)		
	FY 1985	FY 1986	FY 1987
Payments to WCF	2,404	2,100	2,233
Security investigations	37	19	20
Miscellaneous contracts	220	217	220
	5,937	4,856	5,525
Secretarial Offices:			
Communications/conference/advance assistant	23.3	25.0	25.0
International and national transportation conferences/negotiations	32.8	29.0	29.0
Administrative	8.4	9.0	8.0
Stenographic (certified court reporters)	18.5	20.0	20.0
Science advisor		50.0	
Special Emphasis Programs (Hispanic, Asian American, Black History Month, Federally Employed Women's Program, Nat'l Secy's)	41.0	10.0	10.0
National Convention of Civil Rights Advocacy Groups	14.0	10.0	10.0
Special Civil Rights Training and Staff development		6.0	6.0
Enhancements to civil rights ADP system	.2		
Program Management centers/MRBC	2,362.4	3,494.8	3,000.0
National information clearinghouse/MBRC	146.9	225.0	180.0
Outreach Program for Hispanic MBE's/MBRC		159.7	
Outreach Program for Native American Consultants, Inc./MBRC	210.8	150.2	
Transportation-Related Short-Term Loan Program/MBRC	162.4	185.6	185.0
Burroughs maintenance agreement/MBRC	10.8	20.3	10.0
Women-owned business enterprise initiative		450.0	
MBRC conference support	1.8	3.0	3.0
Historically black colleges and universities/MBRC		75.0	50.0
ADP technical assistance (ASK)/MBRC	60.2		
Free-spirit Booklet/MBRC	2.2		
Bank review/MBRC	9.0	25.0	10.0
Grant ageement w/port authorities Demonstration project/MBRC	206.3	450.0	200.0
Facsimile equipment lease, New Orleans/MBRC	1.1	.5	
Data base analysis			75.0
Research projects/MBRC		139.0	50.0
Refinement of subcontracting monitoring instrument/MBRC		75.9	
Transportation-related bonding program/MBRC		500.0	249.0
Minority/women-owned business survey	9.5		
USAF Technical assistant/commercial space	41.2		
Court reporter/commercial space	2.0	2.0	
Data development		36.0	
Policy research	42.9	120.0	138.0
Transportation systems center support		160.0	200.0
Safety analysis	23.6	275.0	930.0
License application processing		60.0	200.0
Liability analysis	39.0	50.0	120.0
Licensee monitoring		20.0	50.0
EAS unspecified		69.0	20.0
Subtotal	3,470.3	[1] 6,905.0	5,778.0

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[1] Excludes $500 thousand estimated to be applied to MBRC program in fiscal year 1987.

OST OFFICE SPACE

Mr. **Lehman**. Please update for the record the OST office space data found on page 815 of last year's hearing record and add a 1987 column.

[The information follows:]

The following chart reflects OST's Washington Headquarters space utilization. For this report, the square feet per employee is based on total employment of September 30, as available, or the anticipated employment for those years where actual data is not available.

Fiscal year	Square feet[1]	Average cost per square foot	Office space cost	Square feet per employee
1984	244,114	$15.00	$3,662,529	245
1985	261,258	$15.03	$3,926,942	197
1986	223,296	$15.03	$3,356,285	171
1987	223,296	$22.91	$5,115,775	171

[1] This excludes office space which is exempt under GSA Temporary Regulation D-70 and D-71 (e.g. library, mailrooms, hot copy centers.)

DOT OFFICE SPACE

Mr. Lehman. Also, please update the table on page 814 and 815 of last year's hearing record that shows current office space utilization by DOT operating mode.

[The information follows:]

SQUARE FEET OF SLUC OFFICE SPACE

	Current square[1] feet	Current Square Feet Per Person
OST	233,563	177
CG	983,634	122
FAA	998,214	123
FHWA	550,362	148
MARAD	99,658	152
NHTSA	115,025	147
OIG	64,515	135
UMTA	89,461	150
FRA	107,059	154
RSPA	34,799	143
SLSDC	3,448	192
Total	[2]3,279,738	133

[1] Excludes office space which is exempt under the D-71 GSA space reduction program (e.g. supplemental space such as libraries, mail rooms, copy centers, conference rooms, reception areas, and central files). The Departmental supplemental space estimates are currently under review by GSA.

[2] For the period FY 1983 through FY 1986 (3rd Quarter) the Department has decreased its SLUC total office space (including supplemental space) by 576,000 square feet or 12.3 percent.

OTHER PERSONNEL COMPENSATION

Mr. Lehman. Please also provide for the record a breakdown of OST "other personnel compensation" for fiscal years 1985, 1986 and 1987.

[The information follows:]

OTHER PERSONNEL COMPENSATION

(in thousands of dollars)

Office	FY 1985 Actual	FY 1986 Estimate After Sequestering	FY 1987 Estimate
General Counsel	$116	$83	$83
Policy & International Affairs 1/	140	115	106
Budget & Programs	55	25	25
Governmental Affairs	17	33	33
Administration	99	107	107
Public Affairs	25	21	21
Secretarial Offices	106	181	178
CAB Transition	4	---	---
TOTAL	$562	$565	$553

1/ Includes personnel costs associated with research and development functions.

OTHER THAN FULL-TIME PERMANENT COMPENSATION

Mr. **Lehman**. Please also provide for the record a breakdown of OST "Other than full-time permanent" compensation for fiscal years 1985, 1986, and 1987.

[The information follows:]

OTHER THAN FULL-TIME PERMANENT COMPENSATION

(in thousands of dollars)

Office	FY 1985 Actual	FY 1986 After Sequestering	FY 1987 Estimate
General Counsel	$163	$132	$134
Policy & International Affairs 1/	539	408	413
Budget & Programs	51	30	30
Governmental Affairs	167	81	82
Administration	360	342	346
Public Affairs	79	18	18
Secretarial Offices	409	473	476
CAB Transition	64	---	---
Total	$1,832	$1,484	$1,499

1/ Includes personnel costs associated with research and development functions.

SES BONUS AWARDS

Mr. LEHMAN. Provide for the record a breakdown of all OST SES bonus awards made in fiscal years 1985 and 1986 showing name, title, and amount.

[The information follows:]

SENIOR EXECUTIVE BONUS RECIPIENTS
FISCAL YEARS 1985-1986

OFFICE OF THE SECRETARY

Award Recipient	1985	1986
Barnett Anceleitz Director, Office of Installations and Logistics		3,920
Joseph Canny Director, Office of Transportation & Regulatory Affairs	3,925	3,920
John Coleman Director, Office of Essential Air Service	4,500 (from CAB)	4,020
John Collins Assistant General Counsel for Legislation		5,980
Warren Dean Assistant General Counsel for International Law		9,420
Neil Eisner Assistant General Counsel for Regulation & Enforcement	13,280	
William FitzGerald Director, Office of Budget	13,280	9,660
Vance Fort Deputy Assistant Secretary for Policy and International Affairs		12,160
Paul Gretch Director, Office of Aviation Operations	4,000 (from CAB)	5,980
William Hudson Departmental Director of Civil Rights	3,925	6,140

SENIOR EXECUTIVE BONUS RECIPIENTS
FISCAL YEARS 1985-1986

OFFICE OF THE SECRETARY (cont'd)

Award Recipient	1985	1986
Alden Johanson Deputy Director, Office of Budget	3,700	
Raymond Karam Deputy Assistant Secretary for Budget and Programs	6,075	12,480
Rosalind Knapp Deputy General Counsel	12,200	9,660
Diane Liff Assistant General Counsel for Litigation	3,925	
Alfonso Linhares Director, Office of Technology and Planning Assistance		5,980
Carolina Mederos Director, Office of Programs and Evaluation		13,740
Patrick Murphy Deputy Director, Office of Essential Air Service	6,000 (from CAB)	3,920
Edward Oppler Deputy Director for International Aviation Relations		3,920
Angelo Picillo Deputy Director, Office of Installations and Logistics	3,925	
Jon Seymour Assistant Secretary for Administration	13,630	12,800

SENIOR EXECUTIVE BONUS RECIPIENTS
FISCAL YEARS 1985-1986

OFFICE OF THE SECRETARY (cont'd)

Award Recipient	1985	1986
Jeffrey Shane Deputy Assistant Secretary for Policy and Program Development	9,475	4,020
Joyce Shelton Director, Office of Financial Management		5,340
Donald Trilling Executive Assistant to the Assistant Secretary		9,420
Richard Walsh Director, Office of Economics	3,925	3,920
Diana Zeidel Director of Personnel and Training		5,550

POLITICAL APPOINTEES

Mr. **Lehman**. Provide for the record a listing, similar to that found on pages 822 through 828 of last year's hearing record, of all presidential, non-career SES, schedule C or other temporary political appointees currently on board in OST showing title, salary, office and location.

[The information follows:]

PRESIDENTIAL, SENIOR EXECUTIVE SERVICE NONCAREER, AND SCHEDULE C APPOINTEES

AS OF MARCH 31, 1986

PRESIDENTIAL APPOINTEES

OFFICE OF THE SECRETARY

The Secretary
Washington, D.C.
$86,200 per annum

The Deputy Secretary
Washington, D.C.
$75,100 per annum

The Associate Deputy Secretary
Washington, D.C.
$68,700 per annum

The General Counsel
Washington, D.C.
$72,300 per annum

The Assistant Secretary for Governmental Affairs
Washington, D.C.
$72,300 per annum

The Assistant Secretary for Policy and International Affairs
Washington, D.C.
$72,300 per annum

The Assistant Secretary for Public Affairs
Washington, D.C.
$72,300 per annum

NONCAREER SES

OFFICE OF THE SECRETARY

Immediate Office of the Secretary

Regional Representative
Philadelphia, PA
$66,232 per annum

Regional Representative
San Francisco, CA
$66,232 per annum

Immediate Office of the Secretary (Cont'd)

Regional Representative
Chicago, ILL
$66,232 per annum

Regional Representative
Atlanta, GA
$61,296 per annum

Special Assistant to the Secretary
Washington, D.C.
$68,700 per annum

Chief of Staff
Washington, D.C.
$70,500 per annum

Coordinator for Minority Affairs
Washington, D.C.
$61,296 per annum

Executive Secretary
Washington, D.C.
$61,296 per annum

Director, Office of Commercial Space Transportation
Washington, D.C.
$66,232 per annum

Director, Office of Small and Disadvantaged Business Utilization
Washington, D.C.
$61,296 per annum

Office of the General Counsel

Associate General Counsel
Washington, D.C.
$61,296 per annum

Office of the Assistant Secretary for Policy and International Affairs

Deputy Assistant Secretary for Planning and Policy Analysis
Washington, D.C.
$68,700 per annum

Office of the Assistant Secretary for Governmental Affairs

Director, Office of Congressional Affairs
Washington, D.C.
$61,296 per annum

Director, Office of Consumer and Community Affairs
Washington, D.C.
$61,296 per annum

Office of the Assistant Secretary for Public Affairs

Deputy Assistant Secretary
Washington, D.C.
$61,296 per annum

Office of the Assistant Secretary for Administration

Deputy Assistant Secretary
Washington, D.C.
$72,300 per annum

SCHEDULE C POSITIONS

OFFICE OF THE SECRETARY

Immediate Office of the Secretary

Special Assistant to the Secretary
Washington, D.C.
$55,745 per annum

Special Assistant to the Secretary
Washington, D.C.
$52,262 per annum

Staff Assistant to the Secretary
Washington, D.C.
$47,391 per annum

Confidential Secretary to the Secretary
Washington, D.C.
$33,727 per annum

Motor Vehicle Operator
Washington, D.C.
$23,712 per annum

Immediate Office of the Secretary (Cont'd)

Secretary (Typing) to Coordinator for Minority Affairs
Washington, D.C.
$19,740 per annum

Confidential Assistant to the Chief of Staff
Washington, D.C.
$33,727 per annum

Office of the Deputy Secretary

Staff Assistant to the Deputy Secretary
Washington, D.C.
$21,804 per annum

Staff Assistant to the Deputy Secretary
Washington, D.C.
$47,623 per annum

Receptionist
Washington, D.C.
$17,824 per annum

Secretary to the Associate Deputy Secretary
Washington, D.C.
$26,381 per annum

Office of the Executive Secretariat

Deputy Executive Secretary for Management
Washington, D.C.
$54,004 per annum

Special Assistant
Washington, D.C.
$37,599 per annum

Special Assistant
Washington, D.C.
$44,430 per annum

Research Assistant
Washington, D.C.
$13,291 per annum

Office of Small and Disadvantaged Business Utilization

Deputy Director
Washington, D.C.
$55,725 per annum

Minority Business Resource Officer
Washington, D.C.
$57,551 per annum

Special Assistant
Washington, D.C.
$26,381 per annum

Staff Assistant for Minority Affairs
Washington, D.C.
$31,619 per annum

Office of Civil Rights

Special Assistant
Washington, D.C.
$27,211 per annum (NTE 06/01/86)

Office of the General Counsel

Special Assistant
Washington, D.C.
$40,104 per annum

Special Assistant
Washington, D.C.
$40,105 per annum

Confidential Secretary
Washington, D.C.
$27,260 per annum

Office of the Assistant Secretary for Policy and International Affairs

Special Assistant to the Assistant Secretary
Washington, D.C.
$45,911 per annum

Special Assistant to the Deputy Assistant Secretary
Washington, D.C.
$32,673 per annum

Office of the Assistant Secretary for Budget and Programs

Special Assistant to the Assistant Secretary
Washington, D.C.
$52,262 per annum

Office of the Assistant Secretary for Public Affairs

Special Assistant to the Assistant Secretary
Washington, D.C.
$38,852 per annum

Staff Assistant to the Assistant Secretary
Washington, D.C.
$24,811 per annum

Staff Assistant to the Assistant Secretary
Washington, D.C.
$24,712 per annum

Staff Assistant to the Assistant Secretary
Washington, D.C.
$24,811 per annum

Staff Assistant to the Assistant Secretary
Washington, D.C.
$24,011 per annum

Director, Office of Media & Special Programs
Washington, D.C.
$44,430 per annum

Director, Office of Special Projects
Washington, D.C.
$54,004 per annum

Office of the Assistant Secretary for Governmental Affairs

Staff Assistant to the Assistant Secretary
Washington, D.C.
$37,599 per annum

Staff Assistant to the Assistant Secretary
Washington, D.C.
$38,852 per annum

Confidential Assistant to the Assistant Secretary
Washington, D.C.
$24,011 per annum

Office of the Assistant Secretary for Governmental Affairs (Cont'd)

Office of Congressional Affairs

Deputy Director, Office of Congressional Affairs
Washington, D.C.
$59,745 per annum

Congressional Liaison Officer
Washington, D.C.
$52,262 per annum

Congressional Liaison Officer
Washington, D.C.
$54,004 per annum

Congressional Liaison Officer
Washington, D.C.
$52,262 per annum

Congressional Liaison Officer
Washington, D.C.
$52,262 per annum

Congressional Liaison Officer
Washington, D.C.
$60,972 per annum

Congressional Liaison Specialist
Washington, D.C.
$21,804 per annum

Office of Intergovernmental Affairs

Deputy Director, Office of Intergovernmental Affairs
Washington, D.C.
$52,262 per annum

Intergovernmental Liaison Officer
Washington, D.C.
$33,727 per annum

Intergovernmental Liaison Officer
Washington, D.C.
$31,619 per annum

Office of the Assistant Secretary for Governmental Affairs (Cont'd)

Intergovernmental Liaison Specialist
Washington, D.C.
$26,381 per annum

Office of Community & Consumer Affairs

Deputy Director, Community & Consumer Affairs
Washington, D.C.
$54,004 per annum

Office of the Assistant Secretary for Administration

Special Assistant
Washington, D.C.
$54,004 per annum

Special Assistant
Washington, D.C.
$32,673 per annum

Staff Assistant
Washington, D.C.
$30,776 per annum

Staff Assistant
Washington, D.C.
$24,011 per annum

Mr. **Lehman**. Please also provide a breakdown similar to that found on pages 830 through 872 of last year's hearing record, of all political appointees throughout the Department for fiscal year 1986 listing the title and salary of each position.

[The information follows:]

DEPARTMENT OF TRANSPORTATION
PRESIDENTIAL (PAS), NONCAREER SENIOR EXECUTIVE SERVICE (NC), AND SCHEDULE C (C) APPOINTEES
FY 1986

Office of the Secretary

Title	Salary
The Secretary	$86,200
Chief of Staff	$70,500
Coordinator of Minority Affairs	$61,296
Special Assistant	$68,700
The Deputy Secretary	$75,100
The Associate Deputy Secretary	$68,700
Director, Office of Commercial Space Transportation	$66,232
Director, Office of Small and Disadvantaged Business Utilization	$61,296
Executive Secretary	$61,296
Regional Representative (Philadelphia)	$66,232
Regional Representative (Atlanta)	$61,296
Regional Representative (Chicago)	$66,232
Regional Representative (San Francisco)	$66,232
Deputy Assistant Secretary for Public Affairs	$61,296
Assistant Secretary for Governmental Affairs	$72,300
General Counsel	$72,300
Associate General Counsel	$61,296
Assistant Secretary for Public Affairs	$72,300
Director, Office of Congressional Affairs	$61,296
Director, Office of Consumer and Community Affairs	$61,296
Assistant Secretary for Policy and International Affairs	$72,300
Deputy Assistant Secretary for Planning and Policy Analysis	$68,700
Deputy Assistant Secretary for Administration	$72,300
Special Assistant to the Secretary	$55,745

Office of the Secretary (Cont'd)

Special Assistant to the Secretary	$52,262
Staff Assistant to the Secretary	$47,391
Confidential Secretary to the Secretary	$33,727
Chauffeur to the Secretary (Motor Vehicle Operator)	$23,712
Secretary (Typing) to the Coordinator for Minority Affairs	$19,740
Confidential Assistant to the Chief of Staff	$33,727
Staff Assistant to the Deputy Secretary	$21,804
Staff Assistant to the Deputy Secretary	$47,623
Receptionist	$17,824
Secretary to the Associate Deputy Secretary	$26,381
Deputy Executive Secretary for Management	$54,004
Special Assistant to the Executive Secretary	$37,599
Special Assistant	$44,430
Research Assistant	$13,291
Deputy Director	$55,725
Minority Business Resource Officer	$57,551

Office of the Secretary (Cont'd)

Staff Assistant for Minority Affairs	$31,619
Special Assistant to the Director, Office of Small and Disadvantaged Business Utilization	$26,381
Special Assistant to the Director, Civil Rights	$27,211
Special Assistant to the General Counsel	$40,104
Special Assistant to the General Counsel	$40,105
Confidential Secretary to the General Counsel	$27,260
Special Assistant to the Assistant Secretary	$45,911
Special Assistant to the Deputy Assistant Secretary	$32,673
Special Assistant to the Assistant Secretary	$52,262
Special Assistant to the Assistant Secretary	$38,852
Staff Assistant to the Assistant Secretary	$24,811
Staff Assistant to the Assistant Secretary	$24,712
Staff Assistant to the Assistant Secretary	$24,811
Director, Office of Media and Special Programs	$44,430
Director, Office of Special Projects	$54,004
Staff Assistant to the Assistant Secretary	$24,011

Office of the Secretary (Cont'd)

Staff Assistant to the Assistant Secretary	$37,599
Confidential Assistant to the Assistant Secretary	$24,011
Staff Assistant to the Assistant Secretary	$38,852
Deputy Director, Office of Congressional Affairs	$59,745
Congressional Liaison Officer	$52,262
Congressional Liaison Officer	$52,262
Congressional Liaison Officer	$52,262
Congressional Liaison Officer	$54,004
Congressional Liaison Officer	$60,972
Congressional Liaison Specialist	$21,804
Deputy Director, Office of Intergovernmental Affairs	$52,262
Intergovernmental Liaison Officer	$31,619
Intergovernmental Liaison Officer	$33,727
Intergovernmental Liaison Specialist	$26,381
Deputy Director, Community and Consumer Affairs	$54,004
Special Assistant	$54,004
Special Assistant	$32,673
Staff Assistant	$30,776
Staff Assistant	$24,011

OFFICE OF THE INSPECTOR GENERAL

Staff Assistant to the Inspector General	$37,943

FEDERAL AVIATION ADMINISTRATION

Administrator	$75,100
Deputy Administrator	$72,300
Special Assistant to the Administrator	$68,700
Special Project Officer	$66,232
Assistant Administrator, Office of Public Affairs	$66,232
Associate Administrator for Airports	$63,764
Chief Counsel	$68,700

FEDERAL AVIATION ADMINISTRATION (Cont'd)

Associate Administrator for Policy and International Aviation	$70,500
Confidential Special Assistant	$38,997
Staff Assistant for Special Projects	$32,673
Confidential Staff Assistant to the Deputy Administrator	$28,139
Secretary/Steno to the Associate Administrator for Policy and International Aviation	$26,411
Special Assistant to the Assistant Administrator for Public Affairs	$48,876
Special Assistant to the Assistant Administrator for Public Affairs	$51,835
Secretary (Typing) to the Assistant Administrator for Public Affairs	$23,985
Confidential Staff Assistant to the Chief Counsel	$33,413

FEDERAL HIGHWAY ADMINISTRATION

Administrator	$75,100
Chief Counsel	$70,500
Associate Administrator for Planning and Policy Development	$70,500
Associate Administrator for Motor Carriers	$66,232
Special Assistant to the Administrator	$57,232
Special Assistant to the Administrator	$48,654
Secretary (Steno) to the Administrator	$29,897
Special Assistant to the Administrator	$61,296
Director, Office of Public Affairs	$57,232
Special Assistant	$59,325

FEDERAL RAILROAD ADMINISTRATION

Administrator	$73,600
Deputy Administrator	$70,500
Special Assistant to the Administrator	$68,700
Chief Counsel	$70,500
Intergovernmental Affairs Coordinator	$38,852
Secretary (Typing)	$24,811
Staff Assistant	$26,381
Supervisory Public Affairs Specialist	$38,852

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

Administrator	$73,600
Deputy Administrator	$72,300
Chief Counsel	$61,296
Director of Public and Consumer Affairs	$61,296
Special Assistant	$31,619
Staff Assistant	$16,575
Special Assistant	$59,577
Private Sector Initiatives Coordinator to the Associate Administrator for Traffic Safety Programs	$55,745
Policy Advisor to the Associate Administrator for Traffic Safety Programs	$45,911
Director, Executive Secretariat	$47,391
Special Assistant	$40,105
Supervisory Public Affairs Specialist	$44,430
Special Assistant to the Director, Office of Public and Consumer Affairs	$21,804
Special Assistant to the Director, Office of Public and Consumer Affairs	$31,619

URBAN MASS TRANSPORTATION ADMINISTRATION

Administrator	$73,600
Deputy Administrator	$70,500
Associate Administrator for Budget and Policy	$66,232
Chief Counsel	$63,764
Special Assistant to the Administrator	$44,430
Special Assistant to the Administrator	$44,430
Special Assistant to the Deputy Administrator	$31,619
Special Assistant to the Associate Administrator for Budget and Policy	$57,236
Director, Executive Secretariat	$52,262
Director, Public Affairs	$55,745
Special Assistant to the Regional Administrator (New York)	$31,619
Attorney Advisor (General)	$47,391

SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION

Administrator	$72,300
Associate Administrator for Management and Productivity	$68,700
Confidential Assistant to the Administrator	$43,864
Special Assistant to the Administrator	$54,004
Special Assistant to the Administrator for Marketing	$40,106
Special Assistant for Intergovernmental Relations	$41,358
Marketing Assistant	$24,011

MARITIME ADMINISTRATION

Administrator	$73,600
Deputy Administrator	$72,300
Director, Office of External Affairs	$61,296
Executive Assistant to the Administrator	$37,599
Staff Assistant	$24,712

RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION

Administrator	$72,300
Deputy Administrator	$72,300
Special Assistant	$31,619

Mr. LEHMAN. For the record, please also update the listing by DOT operating administration of the number of Presidential, non-career SES, Schedule C appointees shown on pages 874 through 877 of last year's hearing record by adding fiscal year 1986 data and updating your data for fiscal year 1985.

[The information follows:]

OFFICE OF THE SECRETARY

Fiscal Year	Presidential	Non-Career SES	Schedule C
1980	6	22	28
1981	6	14	44
1982	6	15	50
1983	4	22	46
1984	7	21	52
1985	7	19	49
1986	7	16	52

OFFICE OF THE INSPECTOR GENERAL

Fiscal Year	Presidential	Non-Career SES	Schedule C
1980	1	0	1
1981	1	0	1
1982	1	0	1
1983	1	0	1
1984	1	0	1
1985	1	0	1
1986	0	0	1

UNITED STATES COAST GUARD

Fiscal Year	Presidential	Non-Career SES	Schedule C
1980	0	0	0
1981	0	0	0
1982	0	0	0
1983	0	0	0
1984	0	0	0
1985	0	0	0
1986	0	0	0

FEDERAL AVIATION ADMINISTRATION

Fiscal Year	Presidential	Non-Career SES	Schedule C
1980	2	5	6
1981	2	4	3
1982	2	4	4
1983	2	5	7
1984	1	5	7
1985	2	5	9
1986	2	6	8

FEDERAL HIGHWAY ADMINISTRATION

Fiscal Year	Presidential	Non-Career SES	Schedule C
1980	1	2	4
1981	1	2	4
1982	1	4	5
1983	1	4	7
1984	1	3	5
1985	1	4	6
1986	1	4	5

NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION

Fiscal Year	Presidential	Non-Career SES	Schedule C
1980	1	1	4
1981	1	2	4
1982	1	1	8
1983	0	1	11
1984	1	1	7
1985	1	2	11
1986	1	3	10

FEDERAL RAILROAD ADMINISTRATION

Fiscal Year	Presidential	Non-Career SES	Schedule C
1980	1	2	4
1981	1	2	3
1982	1	3	3
1983	0	4	4
1984	1	4	5
1985	1	3	4
1986	1	3	4

URBAN MASS TRANSPORTATION ADMINISTRATION

Fiscal Year	Presidential	Non-Career SES	Schedule C
1980	1	3	3
1981	1	4	4
1982	1	4	8
1983	0	4	5
1984	1	3	7
1985	1	4	6
1986	1	3	8

SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION

Fiscal Year	Presidential	Non-Career SES	Schedule C
1980	1	0	2
1981	1	0	2
1982	1	0	2
1983	0	0	2
1984	1	0	4
1985	1	1	5
1986	1	1	5

RESEARCH AND SPECIAL PROGRAMS ADMINISTRATION

Fiscal Year	Presidential	Non-Career SES	Schedule C
1980	0	1	3
1981	0	0	1
1982	0	0	1
1983	0	0	2
1984	0	1	1
1985	0	2	1
1986	0	2	1

MARITIME ADMINISTRATION

Fiscal Year	Presidential	Non-Career SES	Schedule C
1980	NA	NA	NA
1981	0	1	1
1982	1	3	2
1983	1	3	4
1984	1	3	3
1985	0	2	3
1986	1	2	2

POLITICAL TO CAREER EMPLOYEE RATIO

Mr. Lehman. For the record, please provide information similar to that found on pages 879 through 880 of last year's hearing record that shows a comparison of the number of political employees to career employees for each secretarial office and each assistant secretary's office. Please provide this information for fiscal years 1985 and 1986.

[The information follows:]

COMPARISON
PRESIDENTIAL, NON-CAREER SES AND SCHEDULE C APPOINTEES
MAJOR OST OFFICE - END OF FY 1985

OFFICE	PRESIDENTIAL, NON-CAREER SES AND SCHEDULE C APPOINTEES		CAREER EMPLOYEES	
	TOTAL	PERCENT	NUMBER	PERCENT
Secretarial Offices	34	23.9	108	76.1
Public Affairs	7	28.0	18	72.0
Budget & Programs	2	5.3	36	94.7
General Counsel	5	4.2	113	64.9
Governmental Affairs	20	35.1	37	64.9
Administration	2	.4	486	99.6
Policy & International Affairs	5	2.5	199	97.5
TOTAL	75	7.0	997	93.0

COMPARISON
PRESIDENTIAL, NON-CAREER SES AND SCHEDULE C APPOINTEES
MAJOR OST OFFICE - FEBRUARY 28, 1986

OFFICE	PRESIDENTIAL, NON-CAREER SES AND SCHEDULE C APPOINTEES		CAREER EMPLOYEES	
	TOTAL	PERCENT	NUMBER	PERCENT
Secretarial Offices	33	23.7	106	76.3
Public Affairs	9	34.6	17	65.4
Budget & Programs	1	2.6	37	97.4
General Counsel	5	4.2	113	95.8
Governmental Affairs	18	32.7	37	67.3
Administration	5	1.1	467	98.9
Policy & International Affairs	4	2.0	198	98.0
TOTAL	75	7.1	975	92.9

SECRETARY/DEPUTY SECRETARY OFFICE STAFFING

Mr. LEHMAN. Please also update for the record the staffing data for the immediate offices of the Secretary and Deputy Secretary found on page 881 of last year's hearing record and add a fiscal year 1987 column.

[The information follows:]

STAFFING IN THE SECRETARY AND DEPUTY SECRETARY OFFICES

	End-of-year employment for fiscal year			
	1984 actual	1985 actual	1986 estimate	1987 estimate
Immediate Office of the Secretary:				
Secretary............................	1	1	1	1
Chief of Staff.......................	1	1	1	1
Counselor to the Secretary	1	0	0	0
Special Assistant..................	2	3	3	3
Staff Assistant......................	4	3	3	3
Coordinator of Minority Affairs......	1	1	1	1
Confidential secretary...............	1	1	1	1
Secretary............................	2	2	2	2
Chauffeur............................	1	1	1	1
Total permanent..................	14	13	13	13
Part-time & temp. office assts......	1	1	1	1
Immediate Office of the Deputy:				
Deputy Secretary.....................	1	1	1	1
Associate Deputy Secretary...........	1	0	1	1
Special Assistant....................	1	1	0	0
Staff Assistant......................	1	2	2	2
Secretary............................	4	2	3	3
Receptionist.........................	1	0	1	1
Chauffeur............................	1	1	1	1
Total permanent..................	10	7	9	9
Part-time & temp. office assts......	1	2	2	2

CLERICAL TO PROFESSIONAL EMPLOYEE RATIO

Mr. Lehman. Please update the clerical/professional worker table found on page 881 of last year's hearing record by adding a 1987 column.

[The information follows:]

SALARIES AND EXPENSES, AUTHORIZED POSITIONS--CLERICAL AND PROFESSIONAL WORKERS

	FY 1984 Actual		FY 1985 Actual 1/		FY 1986 Estimate After Sequestering 1/		FY 1987 Estimate 1/	
	Clerical	Professional	Clerical	Professional	Clerical	Professional	Clerical	Professional
General Counsel	17	42	34	87	32	83	32	83
Policy and International Affairs	26	59	49	149	36	148	36	146
Budget and Programs	10	36	10	35	10	32	10	32
Governmental Affairs	13	28	18	42	17	39	16	38
Administration	34	131	35	157	36	141	36	137
Public Affairs	7	24	7	28	7	24	6	24
Secretarial Offices	32	76	48	110	44	101	38	75
TOTAL	139	396	201	608	182	568	174	535

1/ Includes positions associated with research and development activities

AVERAGE GRADES

Mr. **Lehman**. Please also update for the record the average grade table found on page 882 of last year's hearing record by adding a 1987 column.

[The information follows:]

AVERAGE GRADES

AVERAGE GRADES

Office	FY 1982	FY 1983	FY 1984	FY 1985	FY 1986	FY 1987
Secretarial Offices	11.6	11.8	11.3	11.3	11.4	11.4
Public Affairs[1]			11.1	11.2	11.4	11.4
Budget and Program	12.4	12.5	12.2	12.1	12.3	12.3
General Counsel	12.0	12.4	12.1	11.4	11.6	11.6
Governmental Affairs	11.5	11.7	11.5	11.0	11.4	11.4
Administration	9.5	9.6	9.7	9.2	9.5	9.5
Policy and International Affairs	12.5	12.6	11.9	11.4	11.3	11.3

[1] Established in September 1983 as a separate office - formerly included in Secretarial Offices.

HIGH GRADED EMPLOYEES

Mr. **Lehman**. Please provide for the record information similar to that found on pages 882 and 883 of last year's hearing record which shows a comparison of the number of GS/GM-15 or higher graded personnel to total employment for each Secretarial and each Assistant Secretary's office. Please provide this information for fiscal years 1985 and 1986.

[The information follows:]

FTP, HIGH GRADED EMPLOYEES - FEBRUARY 28, 1986

Office	GS/GM-15 or higher	Total Employment	% GS/GM or higher
Secretarial Offices	39	133	29.3
Public Affairs[1]	6	28	21.4
Budget and Program	12	36	33.3
General Counsel	35	115	30.4
Governmental Affairs	15	51	29.4
Administration	51	462	11.0
Policy and International Affairs	59	194	30.4
Total	217	1019	21.3

[1] Established in September 1983 as a separate office - formerly included in Secretarial Offices.

FTP, HIGH GRADED EMPLOYEES - FY 1985

Office	GS/GM-15 or higher	Total Employment	% GS/GM or higher
Secretarial Offices	40	135	29.6
Public Affairs[1]	6	25	24.0
Budget and Program	12	36	33.3
General Counsel	39	113	34.5
Governmental Affairs	13	51	25.5
Administration	48	477	10.1
Policy and International Affairs	62	196	31.6
Total	217	1033	21.0

[1] Established in September 1983 as a separate office - formerly included in Secretarial Offices.

SUPERVISIOR/NONSUPERVISOR RATIOS

Mr. LEHMAN. Please update the supervisor/nonsupervisor ratio data on page 884 of last year's hearing record.

[The information follows:]

For comparison purposes, the following data reflects supervisor/nonsupervisory ratios for all employees as of September 30, 1983, 1984 and 1985 and as of February 28, 1986.

SUPERVISOR / NONSUPERVISOR RATIOS
ALL EMPLOYEES

	End FY 83	End FY 84	End FY 85	Feb 28 1986
Office of the Secretary	1:5.3	1:6.1	1:5.1	1:4.9
Secretarial Offices	1:3.9	1:5.4	1:3.8	1:3.5
Budget & Programs	1:3.6	1:3.9	1:5.5	1:5.5
General Counsel	1:7.5	1:10.3	1:6.9	1:6.6
Governmental Affairs	1:13.7	1:7.6	1:4.5	1:5.4
Administration	1:5.1	1:5.9	1:5.4	1:5.3
Policy & International Affairs	1:6.0	1:5.8	1:5.0	1:4.6
Public Affairs	1:11.0	1:8.7	1:5.2	1:3.4
U. S. Coast Guard	1:7.3	1:7.0	1:7.0	1:6.9
Federal Aviation	1:5.1	1:5.4	1:5.5	1:5.4
Federal Highway	1:5.0	1:4.6	1:4.7	1:4.7
Federal Railroad	1:5.9	1:7.2	1:6.8	1:6.8
St. Lawrence Seaway	1:5.2	1:4.7	1:4.8	1:5.4
Urban Mass Transportation	1:5.1	1:4.8	1:4.6	1:4.8
National Highway Traffic Safety	1:4.5	1:4.2	1:4.3	1:4.4
Research and Special Programs	1:6.2	1:6.8	1:6.6	1:6.2
Office of the Inspector General	1:6.6	1:7.0	1:7.1	1:7.0
Maritime Administration	1:6.5	1:6.8	1:7.8	1:7.6
Department of Transportation	1:5.3	1:5.5	1:5.6	1:5.5

OVERSEAS TRAVEL

Mr. **Lehman**. Please update for the record the table on overseas travel as shown on page 887 through 893 of last year's hearing record beginning from the end date of last year's submission and bringing it up to date. Please separately list trips of each secretarial office, including the immediate office of the secretary and the immediate office of the deputy secretary.

[The information follows:]

OFFICE OF GENERAL COUNSEL
(4/22/85 - 4/28/86)

Destination	Purpose	Duration (Days)	Cost	No. of Persons
Ottawa, Canada	Participate as a member of U.S. Delegation in Aviation Negotiations	2	$ 416	1
Tokyo, Japan	Participate as a member of U.S. Delegation in Aviation Negoitations	5	$2,671	1
Bonn, Germany	Participate as a member of U.S. Delegation in Aviation Negotiations	4	$1,839	1
London, England	Participate as a member of U.S. Delegation in Aviation Negotiations and European Space Agency talks	9	$2,511	1
Tokyo,Japan Seoul,Korea	Participate as a member of U.S. Delegation in Aviation Negotiations.	16	$3,665	1
Paris France	Participate as a member of U.S. Delegation in Aviation Negotiations	5	$1,712	1
Rio & Sao Paula Brazil	Participate as a member of U.S. Delegation in Maritime Negotiations	9	$2,349	1
Rio Brazil	Participate as a member of U.S. Delegation in Aviation Negotiations	7	$1,473	1
London,Rome Bonn,&Paris	Participate in European Aviation Security Talks	12	$2,058	1
Ottawa, Canada	Participate as a member of U.S. Delegation in Aviation Negotiations	2	$ 454	1
Ottawa Canada	Participate as a member of U.S. Delegation in Aviation Security Talks	2	$ 379	1
London & Stockholm	Participate as a member of U.S. Delegation in talks with European Space Agency	11	$2,315	1

Tokyo, Japan	Participate as a member of U.S. Delegation in Aviation and Maritime Negotiations	6	$2,679	1
Moscow, USSR	Participate as a member of U.S. Delegation in Aviation Negotiations.	8	$2,863	1
Madrid, Spain	Participate as a member of U.S. Delegation in Civil Aviation Negotiations.	7	$1,679	1
Paris, France	Participate as a member of U.S. Delegation in European Civil Aviation Conference.	5	$1,521	1
Rio Brazil	Participate as a member of U.S. Delegation in Maritime Consultations.	8	$2,052	1
Tokyo, Japan	Participate as a member of U.S. Delegation in Civil Aviation Negotiations.	5	$2,573	1
Ottawa Canada	Participate as a member of U.S. Delegation in Civil Aviation Negotiations.	3	$ 475	1
Tokyo, Japan	Participate as a member of U.S. Delegation in Civil Aviation Negotiations.	5	$2,573	1
Santo Domingo, Dom.Republic	To participate as a member of U.S. Delegation in Civil Aviation Negotiations.	5	$ 668	1
Moscow, USSR	To participate as a member of U.S. Delegation in Maritime Consultations.	10	$2,845	1
London, England	To participate as a member of U.S. Delegation in Civil Aviation Negotiations.	5	$1,286	1
Athens, Greece	To participate as a member of U.S. Delegation in Civil Aviation Negotiations.	11	$2,860	1
Paris, France	To participate as a member of U.S. Delegation in Civil Aviation Negotiations.	8	$2,481	1

Assistant Secretary for Public Affairs

FY 1985 (5-8-85 - 9-30-85)

Destination	Purpose	Duration (days)	Cost	Number of persons
Yokota, Japan Seoul, So. Korea Tokyo, Japan Beijing, China Shanghai, China	To accompany the Secretary of Transportation performing public affairs functions. Secretary meeting with government officials, speech to International Club of Tokyo.	15	$1,425	1

FY 1986 (10-1-85 - 4-25-86) None

Assistant Secretary for Budget and Programs

5/11/85 - 4/30/86 None

OFFICE OF THE ASSISTANT SECRETARY FOR GOVERNMENTAL AFFAIRS

FY 1985 (10/1/84 - 5/7/85) - None

FY 1986 (5/8/85 - 4/30/86) - None

Office of the Assistant Secretary for Policy and International Affairs

3-13-85 - 4-25-86

Destination	Purpose	Days	Cost	Participants
March				
Zurich, Bern, Switzerland 3-13-85	Switzerland Negotiations	7	4,012	2
April				
Buenos Aires Argentina; Quito, Eucador 4-20-85	Aviation Negotiations	13	2,323	1
Rio de Janerio, Brazil 4-13-85	Bilateral Negotiations	7	4,178	2
The Netherlands (The Hague) 4-8-85	Cooperative Research Program and International Conference on Travel Behavior	13	3,600	2
Paris; Amsterdam; Frankfurt; London 4-9-85	National Transportation Facilitation Committee Meeting	12	2,563	1
Ottawa, Canada 4-21-85	Aviation Negotiations	4	586.75	1
Buenos Aires, Argentina; Quito; Ecuador 4-20-85	Aviation Negotiations	13	2,323	1
Ottawa, Canada 4-24-85	Cooperation Research Program U.S./Canada MOU	2	850	2

Destination	Purpose	Days	Cost	Participants
Buenos Aires, Argentina; Quito; Ecuador 4-20-85	Aviation Negotiations	13	2,323	1
Tokyo, Japan 4-27-85	Aviation Negotiations	8	2,843	1
Tokyo, Japan 4-27-85	Aviation Negotiations	10	3,002	1
MAY				
Marbella, Spain Paris, France 5-3-85	Bilateral Negotiations Lloyd's of London Press Third International Aviation Law Seminar	Paris 5 Spain 4	1,900	1
Frankfurt, Bonn Germany 5-12-85	Bilateral Negotiations	7	1,700	1
Frankfurt, Bonn Germany 5-12-85	Bilateral Negotiations	7	1,600	1
Nassau, Bahamas 5-12-14	Caribbean Basin Initiative Workshop	3	500	1
Rome, Italy 5-28-85	European Conference of Ministers of Transport	4	3,350	1
JUNE				
Tokyo, Osaka, Japan 6-2-85	Bilateral Negotiations	14	7,000	2
London, England 6-4-85	Bilateral Negotiations	9	5,314	2
Paris, France 6-8-85	Organization for Economic Cooperation and Development (OECD) Steering Committee	7	DOS	1

Destination	Purpose	Days	Cost	Participants
Geneva, Switzerland 6-9-85	Economic Commission for Europe (ECE)	7	DOS	1
Montreal, Canada 6-27-85	International Civil Aviation Organization (ICAO) Council Meeting	1	79	1
Buenos Aires Argentina 6-29-85	Latin American Civil Aviation Conference (LACAC)	6	700	1
JULY				
Bonn Germany 7-20-85	Bilateral Negotiations with Experts on Terrorism	7	2,000	1
Ottawa, Canada 7-24-85	Min. Mazankowski on transp. issues	1	350	1
Ottawa, Canada 7-24-85	Bilateral Negotiations	1	350	1
AUGUST				
Rio de Janeiro 8-4-85	Bilateral Negotiations	5	1,923	1
Seoul, Tokyo, Hong Kong, Beijing Shanghai, China 8-15-30-85	Bilateral Aviation/ Maritime Consultations—	15	1,400	1
8-27-85	Provided support for official visits of the Secretary	4	2,500(A)	1
Toronto, Ontario	US-Canadian Working Group	5	638	1
SEPTEMBER				
Toronto, Ontario & Boston, Mass. 9-10-85	US-Canadian Work Group	7	1,276	1
Saskatoon, Saskatchewan Canada 9-10-85	Conference - Speech-Western Transportation Advisory Council (WESTAC)	2	875	1
Puerto Azul Philippines 9-20-85	Bilateral discussions on maritime and aviation Matters	3	2,500	1

Destination	Purpose	Days	Cost	Participants
Ottawa, Canada 9-23-85	Bilateral negotiations	4	586	1
OCTOBER				
Toronto, Canada 10-6-85	U.S.-Canadian Working Group	2	638	1
Puerto Vallarta, 10-17-85	U.S.-Mexico bilateral	1	750	1
Rome, Italy 10-19-85	Bilateral negotiations	6	1,461	1
Capri, Italy 10-25-26/85	To attend seminar on Informatics in Air Traffic Control	2	309	1
The Hague, The Netherlands 10-23-85	Bilateral aviation and maritime discussion and speech before International Civil Aviation Conference	3	1,600	1
Cornwall, Ontario, Canada 10-24-85	Speak at the Senior Transport Management Course at the Transport Cornwall Training Institute	2	450	1
Toyko, Japan 10-28-85	Seminars - Japanese Ministry of Transport Dereg. issues	8	No Cost Japan	2
NOVEMBER				
Toyko, Japan 11-8-16-85	Bilateral negotiations	10	4,000	1
Lima, Peru 11-13-85	Bilateral negotiations	4	3,080	2
Paris, France 11-15-22-85	35th Session of the OECD Steering Committee	8	DOS	1
Moscow, Russia 11-16-85	Bilateral negotiations	16	8,954	3
Dublin and Shannon, Ireland 11-17-85	Negotiations with Irish Government officials	6	1,736	1

Destination	Purpose	Days	Cost	Participants
Madrid, Spain 11-30-85	Bilateral negotiations	7	4,600	2
DECEMBER				
Bangkok, Thailand 12-6-85	9th Session of the Economic and Social Commission For Asia and the Pacific (ESCAP)	13	DOS	1
Paris, France London 12-8-85	To attend European Civil Aviation Conference (ECAC) Meeting	8	2,160	1
Paris, France 12-8-85	To attend ECAC Meeting	7	2,196	1
Paris, France 12-8-85	To attend ECAC Meeting	5	2,065	1
Bangkok, Thailand 12-8-85	U.S. delegation to the 9th Session of the Economic and Social Commission for Asia and the Pacific (ESCAP)	11	DOS	1
Ottawa, Ontario 12-11-85	Canadian negotiations	4	723	1
Ottawa, Canada 12-12-85	Canadian negotiations	1	349	1
Rio de Janerio 12-15-85	Bilateral negotiations	6	2,010	1
JANUARY				
McMurdo, Station Antarctica 1-6-86	To observe and discuss Coast Guard Icebeakers	5	No cost	1
Montreal, Canada & Tokyo, Japan 1-11-86	Airport Security	6	2,200	1
Montreal, Canada 1-15-86	Airport Security	2	350	1

Destination	Purpose	Days	Cost	Participants
FEBRUARY				
Geneva, Switzerland 2-1-86	47th Session of the Economic Commission for Europe (ECE)	8	DOS	1
Santo Domingo Dominican Republic 2-4-86	Aviation Negotiations	3	1,284	2
Winnipeg, Manitoba Canada 2-5-86	Univ. of Manitoba Seminar	3	Univ.	1
Tokyo, Japan; Seoul, Korea 2-7-86	Bilateral Negotiations	7	3,175	1
London, England 2-22-86	Bilateral Negotiations	7	3,440	2
MARCH				
London, Moscow 3-1-86	Bilateral Negotiations	15	DOS	1
Paris, France	French Negotiations	7	2,517	1
Geneva, Switzerland 3-15-86	UN Economic Commission	9	DOS	1
Athens, Greece 3-15-86	Bilateral Negotiations	7	1,435	1
Athens, Greece 3-15-86	Bilateral Negotiations	7	2,234	1
Guatemala City 3-15-86	To meet with Regional Offices for Central America and Panama (ROCAP)	7	AID	1
APRIL				
Paris, France; 4-22-86	Conference on Privatization/Deregulation U.S.-CSG - Consultative Shipping Group Maritime Negotiations	10	DOS	1
Paris, Copehangen 4-25-86	U.S.-CSG - Consulta tive Shipping Group Maritime Negotiations	5	4,700	2

Destination	Purpose	Duration (Days)	Cost	No. of Participants
Immediate Office of the Secretary				
FY 85 (5/8/85 - 9/30/85)				
Russia, France, Hungary, Poland	To accompany White House Fellows for educational trip for discussion on U.S. foreign policy and international affairs	17	$2742	1
Montreal	Accompany & assist the Secretary in an official capacity for the Int'l. Civil Aviation Organization Meeting	1	$ 328	3
Korea, Japan, Hong Kong, China	Accompany & assist the Secretary in an official capacity for meetings on international transportation related issues	15	$6524	2
FY 86 (10/1/85 - 4/30/86)--None to date.				
Office of the Deputy Secretary				
FY 85 (5/8/85 - 9/30/85)--None				
FY 86 (10/1/85 - 4/30/86)--None to date.				
Office of Commercial Space Transportation				
FY 85 (5/8/85 - 9/30/85)				
Korea, Japan, Hong Kong, China	Meetings on international transportation related issues	15	$2214	1

Office of Commercial Space Transportation (cont.)

FY 86 (5/8/85 - 4/30/86)

Denmark, Sweden, England	Participation in the 36th Int'l Astronautical Federation Congress & discussion of insurance related issues with Lloyds of London	9	$1321	1

COMMERCIAL SPACE

Mr. Lehman. On page 13 why are you proposing an almost fourfold increase for the Office of Commercial Space Transportation—from $478,000 to $2.275 million? What contractual studies do you propose to perform and can we be assured that none of these studies will duplicate work performed by NASA?

[The information follows:]

The Office of Commercial Space Transportation's budget for FY 1986 includes $478,000 to fund salaries and expenses and related costs, and $150,000 for research and development contractual support in addition to $685,000 of TPR&D carryover funds to support economic analysis and safety research. The increase in salaries and expenses from FY 1986 to FY 1987 is for two additional positions and normal within grade increases, with the largest part of the increase reflecting the initiation of research needed to carry out the Office's regulatory responsibilities under the Commercial Space Launch Act. The research constitutes the minimum expenditure of resources necessary for developing criteria for licensing launches from either government or commercial ranges. These studies will assist the Office in: approving a company's safety personnel; establishing qualifications for launch safety personnel; certifying flight safety systems; and conducting inspections and investigations.

While the proposed research will build on the experience of U.S. Government in conducting launches over the last 25 years, neither NASA, Air Force, nor any other agency has developed specific criteria and procedures that are appropriate for evaluating and licensing commercial launch proposals. Accordingly, the Office's research methodology will first assess existing government range safety procedures, flight termination systems and other safety requirements, and then determine where additional study is needed to accommodate commercial concerns and develop licensing standards.

ASSISTANT SECRETARY FOR ADMINISTRATION FUNDING INCREASE

Mr. Lehman. Also on page 13 please explain the 13.8 percent increase for Assistant Secretary for Administration—from $20.030 million to $22.8 million.

[The information follows:]

Higher rates charged by the General Services Administration for space rental accounts for $1,934,000 or 70 percent of the increase. Standard Level User Charge rates per square foot of office space in the Nassif Building increased from 15.03 in FY 1986 to $22.95 in FY 1987.

Also, included is $400,000 for development of an automated tariff filing system. Currently, this information is processed manually and is time consuming and unwieldy. Implementation of a computerized system will result in long term savings for both industry and the Department.

The remaining $436,000 is required to fund administrative type activities formally included as part of the TPR&D Appropriation ($150,000) and to provide for anticipated inflationary increases in the cost of equipment, supplies and housekeeping services ($316,000).

GENERAL COUNSEL—OTHER SERVICES

Mr. Lehman. Please update for the record the "other services" breakdown for the General Counsel found on page 894 of last year's hearing record and add a 1987 column.

[The information follows:]

	FY 1985 actual	FY 1986 estimate	FY 1987 estimate
General counsel:			
Travel	73.7	60	60
Contractual services	51.3	100	100
Total	125.0	160	160

MAJOR LITIGATION CASES

Mr. LEHMAN. Please provide for the record information similar to that found on pages 894 and 895 of last year's hearing record that shows the major litigation cases handled by the General Counsel's office in fiscal years 1984 and 1985. Please provide this information for the balance of fiscal year 1985 and 1986 to date.

[The information follows:]

MAJOR LITIGATION CASES HANDLED IN FY 1985 & 1986

1. Administered and coordinated the several thousand challenges still pending in the U.S. Court of Appeals for the Federal Circuit brought by former air traffic controllers who were removed for striking. Defended approximately six lawsuits in Federal courts around the country on matters arising from the PATCO strike.

2. Continued our participation in litigation challenging attempts by airport proprietors and others to improperly interfere with the national air transportation system. For example, Long Beach, CA; Orange County, CA; Burbank, CA; and Love Field, TX.

3. Defended several cases involving maritime issues: most notably the construction-differential subsidy repayment rule, and several cases involving the cargo preference laws.

4. Participated in litigation involving the highway traffic safety laws: e.g., involving the passive restraints (airbags) rule, General Motor X-Car brakes, Ford transmissions, and corporate average fuel economy issues.

5. Defended challenges to orders issued by DOT (and the CAB) involving aviation regulatory matters: e.g., Airport Buy-Sell rule, labor protection, Visit USA fares, SATO agreements, computer reservations systems, designator code-sharing practices, and handicapped discrimination rules.

6. Analyzed and reviewed DOT's orders and decisions in airline merger cases: e.g., Pacific Division Transfer Case, Northwest-Republic, Texas Air-Eastern, TWA-Ozark, and People Express-Frontier.

7. Defended a variety of cases arising out of the Department's Disadvantaged Business Program, including constitutional challenges and efforts to overturn DOT determinations regarding the eligibility of firms to qualify as DBEs or WBEs.

8. Participated, along with agencies from DOT's operating elements, in the defense of numerous other cases: e.g., FRA's Alcohol and Drug rule, environmental challenges to highway construction projects, etc.

9. Litigation Before the Interstate Commerce Commission:
   a. Review of Car Hire Regulation
   b. Boxcar Car Hire and Car Service
   c. Santa Fe - Southern Pacific Merger
   d. Product and Geographic Competition
   e. Intramodal Competition
   f. Armstrong Case (Definition of Interstate Commerce)

g. Confidentiality of Railroad Contract Information
h. Adequate Revenue Levels (upcoming)
i. CSX Acquisition of Sea-Land (upcoming)
j. Including the above cases, we participated in approximately 11 cases involving regulation of rail carriers from May 1985 to date.
k. Including the above cases, we participated in approximately 8 cases involving regulation of motor carriers from May 1985 to date.

10. Participated in several proceedings before the Federal Maritime Commission involving service contracts, independent actions, and conference agreements.

With the exception of litigation arising out of the PATCO strike, none of the major lawsuits being handled by the General Counsel's Office involve claims for monetary damages. Although there is a theoretical possibility that the United States could be liable for significant amounts of back pay liability if we were to lose court appeals, the number of PATCO cases pending is declining and the results to date have been very favorable.

The FAA and the Coast Guard both defend (in coordination with the Justice Department) numerous suits in tort alleging damages caused by negligence of federal government employees. Plaintiffs in pending suits have requested a total of several billion dollars, but this number does not reflect in any way the actual potential liability of the United States.

In addition, MarAd has the biggest involvement of any U.S. agency, after the Navy, in tort litigation brought against the United States over asbestos contamination. The worst case potential liability of the United States (not just from MarAd activities) has been estimated to be $40 billion.

Major Cases Litigated by Office of Aviation Enforcement and Proceedings before U.S. Courts and Administrative Law Judges in FY 1985 and 1986

1. Southwest Airlines Enforcement Proceeding (Handicapped Discrimination)
2. Pacific Division Transfer Case (Pan Am/United Airlines)
3. U.S.-Japan Gateways Selection Proceeding
4. Denver-London Route Selection Proceeding
5. United States v. Northeastern International Airways (Consent Order/Passenger Refunds) USDC, S.D. Fla.
6. Dole v. Hawaiian Pacific Airlines, Inc. (unauthorized air transportation) USDC, D.D.C.
7. Air New England/Mackey International Airlines Employee Protection Program Investigation
8. Pan American World Airways Employee Protection Program Investigation
9. United Air Lines Employee Protection Program Investigation
10. Braniff International Airways Employee Protection Program Investigation
11. NWA-Republic Acquisition Case
12. Texas Air-Eastern Acquisition Case
13. TWA-Ozark Acquisition Case

POLICY OFFICE ACCOMPLISHMENTS

Mr. LEHMAN. What were the three most important accomplishments of the policy office over the last year?

[The information follows:]

1985 was a very important year and it was difficult to single out just three important accomplishments. Instead, we have listed four important areas of accomplishments:

1. Surface and aviation economic regulatory accomplishments:

Transfer of CAB functions, airline computer reservations systems, CAB workload, mergers, tariff computerization, construction differential subsidy repayment, deregulation, airport slot "buy-sell" regulation.

2. International negotiations:

Aviation—United States—Japan, United States—USSR.

Maritime—United States—USSR, United States—Brazil, CSG negotiations.

3. Safety and security:

Transportation Safety, Aviation Security, Safety Task Force.

4. Oil Pollution.

SURFACE AND AVIATION ECONOMIC REGULATORY ACCOMPLISHMENTS

Transfer of CAB Functions: The sunsetting of the Civil Aeronautics Board and the transfer of its functions and staff to DOT was one of the top accomplishments of the Department in 1985. The successful transition of authority to DOT, throughout which the lead role and responsibility was carried by the Office of Policy and International Affairs, was a major administrative, procedural, and policy undertaking. It entailed a comprehensive review and reformulation of aviation economic regulatory functions and procedures that had been built up over almost 50 years at the CAB. All CAB functions had to be assessed and reorganized at DOT, staffing assignments made, coordination procedures developed and implemented, CAB regulations and regulatory procedures revised and reissued, and many deferred CAB decisions and issues resolved. And all of this had to occur while the Department continued to carry out the day-to-day workloads in the transferring functions of fitness, licensing, Essential Air Service, international aviation programs, consumer assistance, antitrust matters, and airline data collection.

Airline Computer Reservations Systems: One of the first major issues confronting DOT after CAB sunset was a challenge to the effectiveness of a major rulemaking issued by CAB just prior to sunset. This rulemaking, the Computer Reservations System (CRS) rule, was issued after years of controversy within the airline industry and after lengthy investigations by both CAB and the Justice Department. The CRS vendors were perceived as having circumvented the rule against bias by instituting "secondary bias" and DOT was under significant pressure to promulgate additional rules to prevent this secondary bias. Recognizing that additional rulemaking would take a significant amount of time and effort that would involve the airlines, travel agents, and the government and also recognizing that any new rule would be vulnerable to further circumvention by the CRS vendors, DOT quickly moved to obtain the voluntary agreement of the CRS vendors to cease use of secondary bias in their systems. The result proved to be effective immediately and has not been eroded in any way since. In another matter related to CRS's, the Department responded quickly to widespread concern that the use of shared airline codes, especially as displayed in the CRS systems which are relied upon by the vast majority of travel agents, was deceptive to consumers. We issued a straightforward rule which requires code-sharing airlines to take steps to notify consumers and travel agents of flights listed under the code of another carrier. Again, this action proved to be effective quickly and without raising new problems.

CAB Workload: Since CAB sunset, DOT has endeavored to streamline the procedures and decisionmaking, especially because the Department has faced an extremely heavy workload in the airline regulatory functions, including an unprecedented amount of new merger and acquisition cases and also a large amount of work that was deferred by the CAB to DOT. One measure of the volume of the work that is processed in this regard is that during 1984 over 1,000 aviation economic regulatory orders were issued by the Department, almost 900 of which came out of the Office of Policy and International Affairs.

SURFACE AND AVIATION ECONOMIC REGULATORY ACCOMPLISHMENTS

Mergers

The Policy Office staff participated in the analysis of various airline acquisition/merger cases which engendered a number of significant economic and competitive market questions and public benefit considerations. These included the Southwest-Muse Air and the People Express-Frontier acquisition cases. By far the most significant of these cases was the Pacific Division Transfer Case which entailed the transfer of Pan American's Pacific Division operations and flight/ground equipment to United Airlines. This case involved major international markets and the posture of U.S. flag carrier operations in the Pacific region. This was a very complex case handled on a highly expedited schedule without unduly impeding the Department's processing of other airline cases. There were 39 parties including 13 airlines, 14 labor parties, various civic parties, the Department of Justice, and DOT's Public Counsel. Certain Policy Office staff members--all of whom were insulated from the decisionmaking staff--participated directly in the proceeding as Public Counsel analysts and expert witnesses, helping to build full and high quality record for decision. Other, separate Policy Office staff members assisted with preparation of the Secretary's initial and final decisions.

Tariff Computerization

The Policy Office proposed converting to a computerized system of filing and maintaining international aviation tariffs (50 FR 33452, August 19, 1985). Policy Office staff have begun the development and design of an automated prototype. The automated tariff will significantly improve the Department's productivity and our responsiveness to the public and the aviation industry. The proposal represents the first significant modification of the tariff filing environment since its inception in 1938.

Construction Differential Subsidy Repayment

On May 3, 1985, the Department issued a Final Rule allowing owners of tankers built with Construction Differential Subsidies to repay their remaining subsidy (plus interest) in return for the removal of the prohibition that prevents such vessels from operating in the domestic trades on a full-time basis. During FY 1985, the owner of two CDS-built tankers repaid a total of $86.5 million.

This rule will result in transportation savings of as much as $800 million. The Policy Office was responsible for the development and implementation of this rule. Policy staff prepared the Regulatory Impact Analysis and the Environmental Assessment that accompanied the Final Rule and the Assistant Secretary for Policy and International Affairs testified before a House Merchant Marine Subcommittee oversight hearing on the impact of the Final Rule.

The economic analysis that formed the basis for the rule was quite complex and required forecasting a number of key variables over several years and then estimating the costs and benefits to society of a number of regulatory options. Several senior analysts devoted over six months each to preparing the analyses that formed the basis for the rule.

Deregulation

The Policy Office prepared a set of three bills which would essentially complete the deregulation of the surface transportation industry. Senate hearings were held on the bills, at which Secretary Dole presented the Administration's support for removal of outmoded economic regulation. The Policy Office continues to work with the House and Senate, affected interest groups and other agencies to achieve and maintain a deregulated environment for the transportation industry.

SURFACE AND AVIATION ECONOMIC REGULATORY ACCOMPLISHMENTS

Airport Slot "Buy-Sell" Regulation: Throughout 1985 and to date in 1986, OST worked closely with FAA on the analysis of slot allocation problems at National, O'Hare, LaGuardia, and Kennedy Airports. Both in the issuance of the 12/84 buy-sell regulation and its implementation, the Office of Policy and International Affairs has borne the primary responsibility for assuring that international aviation was provided for adequately. This has involved extensive coordination with international air carriers, both foreign and domestic, and painstaking efforts to mesh the domestic buy-sell concept with the regulated international aviation regime.

INTERNATIONAL NEGOTIATIONS

U.S. - Japan - Policy Office representatives were instrumental in securing, through civil aviation negotiations, a Memorandum of Undersanding between the U. S. and Japan, signed May 1, 1985. This agreement, *inter alia*, substantially increased competition in the U.S.-Japan market by providing for the entry of several new combination and cargo services and by reducing operating restrictions governing air service between Japan and Micronesia.

U.S.- U.S.S.R. - Policy Office representatives were instrumental in securing, in civil aviation negotiations, a Memorandum of Understanding between the United States and the Soviet Union, signed November 22, 1985. This agreement provided for the resumption in April 1986, after over four years, of direct air service between the two countries. Accordingly, Pan American is now authorized to service Moscow and Lenningrad; Aeroflot the Soviet carrier,now serves New York and Washington.

U.S - U.S.S.R - Maritime - The United States and the Soviet Union met in December 1985 and March 1986 in efforts to renegotiate a maritime agreement. The last agreement was allowed to expire in 1981 as a result of serious political differences with the Soviets. In these discussions, the Soviets are seeking access to U.S.-USSR bilateral trades and the U.S.-third country trades on the same basis as we treat friendly market economy countries. We have told the Soviets that this is not possible. We are willing to offer expedited port access to the Soviets in our bilateral trade in exchange for guarantees on cargo sharing for U.S.-flag carriers. We are not willing to grant the Soviets expedited port access for the U.S.-third country trades. The third round of discussions is scheduled for September 1986.

Consultative Shipping Group (CSG) Negotiations

The Policy Office headed the U.S. delegation to successful maritime talks in Copenhagen with the Consultative Shipping Group (12 European nations and Japan). The talks culminated in a joint statement announcing the parties' intention to resist protectionist measures that restrict shipping competition. The parties agreed to consult regularly on ways to jointly resist harmful protectionist actions and improve competitive conditions in shipping. The statement marks a successful effort by the U.S. and the nations in the Consultative Shipping Group to work together despite differences in their approaches to shipping policy. The U.S. will retain its right to act independently to protect U.S. interest, but will gain the added benefit of working closely with other nations to further promote competitive access on a case-by-case basis.

INTERNATIONAL NEGOTIATIONS

U.S.-Brazil Maritime Negotiations

The Policy Office, as head of the Interagency Maritime Policy Group, worked with MarAd and other agencies to develop the U.S. position in maritime negotiations with Bazil. The U.S. and Brazil signed a one-year extension of the agreement in December, 1985 and the U.S., at that time put the Brazilians on notice that there would be no further extensions unless significant increase in the scope of cargo available for competitive bid took place. This policy position was an important precedent.

SAFETY AND SECURITY

Transportation Safety

The Policy Office has provided major support for Secretary Dole's efforts to improve safety in all modes of transportation. Policy developed several measures to strengthen truck safety regulations, which are being reviewed and revised pursuant to the Motor Carrier Safety Act of 1984. In aviation safety, Policy monitored safety performance and led or oversaw a variety of regulatory and administrative initiatives such as the proposal to expand FAA's safety inspection work force and a proposal for improved protective breathing equipment for aircraft crews. Policy also oversees Department efforts to deal with drug and alcohol abuse in all modes.

Aviation Security

The Policy Office has been the principal advisor to the Secretary on transportation security issues. It developed, in conjunction with FAA and other agencies, numerous actions to respond to the heightened terrorist threat. Notably, it provided the support for Secretary Dole's successful efforts to spearhead a major upgrading of international aviation security standards. The upgraded standards have been adopted by the International Civil Aviation Organization (ICAO) and go into effect May 19, 1986.

The Office has overseen implementation of the international airport security assessment program, established under the International Security and Development Cooperation Act of 1985 and numerous other legislative, regulatory and administrative measures to significantly improve the security of domestic and international air travel.

Safety Task Force

The Policy Office serves on the Secretary's Safety Task Force. The Secretary established the Task Force to examine the Department's safety programs in depth and to recommend improvements. Thus far, the Task Force has issued reports concerning the safety programs of the Federal Aviation Administration, the Federal Railroad Administration, and the Research and Special Programs Administration. Reviews of the safety programs of the Federal Highway Administration, the National Highway Traffic Safety Administration, and the Coast Guard are in progress. Policy staff participated in substantive and detailed examinations of these programs and developed recommendations concerning resource levels, resource allocations, regulatory improvements, inspection and enforcement procedures, and program coordination. The Task Force recommendations for FAA, FRA, and RSPA are being implemented.

OIL POLLUTION

The Policy Office lead the Administration's efforts to obtain comprehensive oil pollution and compensation legislation. Working with the Department of State, we obtained White House support for international conventions on this subject. The conventions were submitted to the Senate for advice and consent on ratification in November 1985 and hearings are scheduled in May 1986. We provided testimony and gave support to the House Merchant Marine and Fisheries Committee on comprehensive legislation which passed the House in December 1985. Similar support is being provided for Senate consideration of the legislation.

TPR&D STAFFING

Mr. **Lehman**. You are proposing to merge the TPR&D appropriation with the salaries and expenses appropriation. Of the fiscal year 1986 after sequestering and fiscal year 1987 estimates that you show on page 19, how many positions do you attribute to TPR&D functions? Similarly, what portion of personnel costs and of "other costs" do you attribute to TPR&D functions?

[The information follows:]

TRANSPORTATION PLANNING RESEARCH AND DEVELOPMENT FUNCTIONS—OFFICE OF POLICY AND INTERNATIONAL AFFAIRS

[Dollar amounts in thousands]

	Fiscal year 1986 after sequestering	Fiscal year 1987 estimate [1]
Positions	26	$24
Personnel costs	1,860	....
Other costs	1,189	1,200
Contracts	968	1,200
Administrative support/travel	221	....

[1] Personnel, administrative support, and travel costs have been merged into the General Administration category of the Salaries and Expenses appropriation in FY 1987. Two positions have been moved to the Office of Commercial Space Transportation in FY 1987 to support the increased research and development program.

POLICY R&D FUNDING INCREASE

Mr. **Lehman**. On page 19 why are you proposing to increase Policy Office "research and development contractural support" by 24 percent—from $968,000 to $1.2 million? In what research areas do you intend to direct the increased funding?

[The information follows:]

The increase is caused by the deferral of research programs that were cancelled because of the FY-1986 sequestering action. We intend to direct the proposed increase into rail and maritime regulatory reform and into transportation data provided by the Bureau of the Census.

POLICY OFFICE R&D CONTRACTS

Mr. **Lehman**. For the record, please provide a breakdown of your fiscal years 1985 and 1986 policy office research and development contracts showing the subject, cost and grantee.

[The information follows:]

SUBJECT	THOUSANDS	GRANTEE
FY 1985		
Impact of Antitrust Immunity	$25.0	Ecosometrics
ICC Maximum Rate Regulation	40.0	Harrison-Boyd
Household Goods Carriers	33.3	Mandex
United States-Mexico Trucking	29.3	Dr. R. B. Will
Manpower Needs in Caribbean	10.0	Louisiana State
Airport Improvement Program	65.5	COMSIS
Rapid Transit Station Sites	200.0	Howard Univ.
Marine Safety Reporting	220.0	TSC
Rail-Truck Competition	114.0	TSC
Transit Revenue Ratio	70.0	TSC
Maritime Regulatory	80.0	TSC
Drug Use Safety Impact	40.0	TSC
Emergency Transmitter	10.0	TSC
Maritime Industry Analysis	150.0	TSC
International Airlines Data	425.0	TSC
University Research	50.0	TSC
Sampling Survey	25.0	TSC
Effects of Motor Carrier Act	5.0	TSC
Maritime Data Base	70.0	MARAD
University Research Program	468.8	5 Universities
Rail Regulatory Research	63.0	TSC
Washington Heliport Study	51.7	FAA
Longer Combination Vehicles	45.0	COMSIS
Response to Chemical Spills	80.0	Dillard
TOTAL	$2,370.4	
FY 1986		
Trans. Analysis Methods	20.0	Florida A&M
Motor Carrier Safety	70.0	Texas at El Paso
Hazardous Pollution	50.0	Dillard
Rapid Transit Stations	100.0	Howard Univ.
Load Impact Factors	10.0	MIT
TOTAL	$250.0	

Mr. **LEHMAN**. Also, please provide a breakdown of the specific research activities and studies you are proposing for fiscal year 1987 including the estimated cost of each?

[The information follows:]

Proposed Research and Studies for FY 1987

Title	*Cost*
Regulatory and Economic Research	$350,000
International Aviation Data	425,000
University Research Contracts	350,000
Transportation Data	75,000
Total	1,200,000

UNIVERSITY RESEARCH ACCOMPLISHMENTS

Mr. **LEHMAN**. What were the major research accomplishments under the university research program over the last year?

[The information follows:]

One of the key objectives of the Program is to stimulate interaction between the Department and Historically Black Colleges and Universities. In order to accomplish this objective the Program sponsored a major Proposal Preparation Workshop for Minority Colleges and Universities on March 7–8, 1985. A total of 50 faculty members attended from 37 minority colleges and universities in 12 states, Washington, D.C. and Puerto Rico. The professors met with transportation specialists and worked out practical ideas for research proposals. The participants also had one-on-one meetings with key members of the Department's staff who acquainted them with special research opportunities in the various agencies which comprise DOT. The minority professors rated the workshop to be a complete success.

A representative set of the specific research results arranged in the four areas under the University Research Program follows.

Transportation Regulation: A five-year effort by Syracuse University has concluded that service quality and quantity have not diminished for the vast majority of shippers and receivers in rural areas since the partial deregulation of the trucking industry in 1980. The University of North Florida in an examination of the effects of the Motor Carrier Act on 1980 on minority-owned trucking operations determined that, while the law can be credited with an improvement in the patterns of ownership of minority carriers, the rate of participation has not been proportional to the non-minority carriers.

Transportation Investment and Financing: Conclusions from the Harvard University project on investment rules for the Interstate Highway System suggest that highway improvements should be evaluated with some form of benefit-cost rule. In a study of the benefits and costs associated with abandoning low volume rural highways and bridges Iowa State University found that the largest savings are likely from the conversion of public dead-end gravel roads with residence accesses to private drives.

Transportation Safety. The University of North Carolina researched the role of television and printed news coverage on the success of implementation of state drinking driver laws. They concluded that continued media attention after the law is passed is critical to the efficacy of the legislative intent. Purdue University in a study of the human/machine interface found a potential way to improve the safety performance of Air Traffic Controllers.

Transportation Technology: A study of the world market position of the U.S. aircraft industry by the University of Washington found that foreign competition, and in particular high technology competition, is increasing and that the policies of their respective governments are playing a crucial role in the success of foreign firms. The results of a University of Massachusetts investigation of the degradation of the structural base of rail and highway systems caused by traffic and environmental conditions are expected to aid the Department in improving the economics of track and pavement rehabilitation and maintenance.

UNIVERSITY RESEARCH FUNDING REQUEST

Mr. **LEHMAN**. At what level are you proposing to fund the university research program for fiscal year 1987?

[The information follows:]

The University Research Program is allocated $300,000 in our budget request for FY 1987.

UNIVERSITY RESEARCH GRANTS

Mr. LEHMAN. Please update for the record the list of all university research program grants for fiscal years 1984 and 1985 to date. Please show the name of the school, the project title, the amount of the grant award, and which schools are historically black institutions.

[The information follows:]

The University Research Program sponsors contracts not grants to perform research. The listing of contracts is furnished as requested with an asterisk "*" by each historically black institution.

Fiscal Year 1984

University	Title of Contract	Funding ($)
*Alabama State	"Improving Transit Efficiency and Equity for Inner City Minorities"	184,489
Arizona State	"Contributions to the Automation of Air Traffic Control"	85,153
*Benedict College	"Modeling and Simulating the Probable Employment Consequences of Alternative Transportation Investment Strategies"	143,535
California at Berkeley	"Analysis of the Potential Use of Artificial Intelligence Techniques in Air Traffic Control Automation"	130,000
California at Irvine	"The Effects of Safety Seat Legislation on Pediatric Trauma"	15,493
California State at Long Beach	"Transportation-Related Critical Institutional Barriers and Bottlenecks to U. S. Exports: The Ports Experience"	110,000
*Dillard	"An Analysis of Regional Response to Oil and Hazardous Chemical Pollution Incidents and Development of a Computer-Based Simulation Model of On-Scene Coordination in U. S. Ports"	100,000
Florida Atlantic	"On Drift Prediction"	83,783
George Washington	"Evaluation of Maritime Cargo Protection Practices and Proposals on U.S. Dry Bulk Trades'	59,435
*Hampton Institute	"The Introduction of Child Safety Seat Legislation in Virginia: Types and Levels of Community Response and Effects on Automobile Accident Statistics"	5,000
Iowa State	"Evaluating Alternative Investment Strategies in Solving the Local Rural Road and Bridge Problem"	73,780
Lehigh	"Fracture Analysis and Corrosion Fatigue in Pipelines"	30,000
Massachusetts/Amherst	"Tensile Zone Effects on Track and Pavement Performance"	86,404

Mass. Inst. of Tech.	"Predictive Models for Evaluating Load Impact Factors of Heavy Trucks on Current Pavement Conditions"	35,000
Michigan at Ann Arbor	"Rational Method for Upgrading Towed Vessel Safety"	75,744
Michigan State	"An Experimental Study of Vertical Dispersion of an Oil Slick under Wind-Wave Action"	70,842
North Carolina	"The Role of the Media and Public Attention in Drinking Driver Countermeasures"	136
*North Carolina A&T	"Transportation Investment Strategies"	58,526
North Carolina State	"Transfer of Composite Technology to Design and Construction of Bridges"	77,823
Pennsylvania State	"Evaluation of Distress in Highway Pavements Due to Combined Action of Heavy Traffic and Environmental Conditions"	79,999
Washington at Seattle	"Emerging Sources of Foreign Competition in the Commercial Aircraft Manufacturing Industry"	76,208
Washington at Seattle	"Theoretical and Experimental Investigations on Propagating Ductile Cracks in Pipelines"	200,000
Wayne State	"Quantification of Cadaveric Bone Strength"	54,156
Western Kentucky	"Establishment of Data Bank on the Self-Heating of Coal"	68,312

Fiscal Year 1985

University	Title of Contract	Funding ($)
*Howard	"Joint Development for Rapid Transit Station Sites: A Computer-Based Planning Tool for Local Jurisdictions"	200,000
*Dillard	"An Analysis of Regional Response to Oil and Hazardous Chemical Polution Incidents and Development of a Computer-Based Simulation Model of On-Scene Coordination in U.S. Ports"	80,000
*North Carolina A&T	"An Analysis of Total Factor Productivity in Public Transportation"	800

Fiscal Year 1986

University	Title of Contract	Funding ($)
Mass. Inst. of Tech.	"Predictive Models Evaluating Load Impact Factors of Heavy Vehicles on Current Pavement Conditions"	9,541

POLICY OFFICE TEMPORARY ADVISOR

Mr. **Lehman**. On page 20 you indicate that "other costs" for the policy office includes the services of a key policy advisor "to assist the Assistant Secretary with the formulation of international civil aviation policies". Why do you believe a policy advisor is needed to assist the Assistant Secretary?

[The information follows:]

The individual referred to in our FY-87 Budget submittal is Mr. Thomas Colwell, formerly Director of the Office of Aviation, Department of State, who is on a two-year reimbursable detail to the Policy Office. He is the principal advisor to the Assistant Secretary on international civil aviation policy, bilateral negotiations, consultations with foreign governments, and the economic and systems analysis necessary for the formulation of Departmental positions on international aviation issues.

Mr. **Lehman**. What are the contractual, personnel or other costs associated with the Assistant Secretary's policy advisor?

[The information follows:]

There are no contractual costs associated with the policy advisory. However, the personnel compensation and benefits cost is $76,295 per annum

POLICY OFFICE—OTHER COSTS

Mr. **Lehman**. Please provide for the record an update of policy office "other costs" similar to what appears on page 896 of last year's hearing record. Please add a 1987 column.

[The information follows:]

POLICY OFFICE—OTHER COSTS

	fiscal year 1985 actual	fiscal year 1986 estimate	fiscal year 1987 estimate
		[After sequestering]	
Other costs:			
Travel	$122,000	$150,000	$159,000
Contracts	105,000	248,000	57,000
Total	227,000	398,000	216,000

POLICY OFFICE STAFFING

Mr. **Lehman**. Please also update the staffing data for the policy office found on pages 896 and 897 of last year's hearing record and add a 1987 column. You may drop the 1983 column. Please express staffing in terms of both EOY permanent positions and FTE's.

[The information follows:]

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SALARIES AND EXPENSES: ASSISTANT SECRETARY FOR POLICY AND INTERNATIONAL AFFAIRS

	Staffing 1/				
		FY 1986		FY 1987	
	FY 1985 Pos.	Pos.	FTE	Pos.	FTE
Office of the Assistant Secretary:					
Professional	13	13	13	12	11
Non-Professional	7	5	7	5	5
Total	20	18	20	17	16
Office of Trans. Regulatory Affairs					
Professional	23	21	21	21	21
Non-Professional	9	7	8	7	6
Total	32	28	29	28	27
Office of Int'l Trans. & Trade					
Professional	16	17	14	16	15
Non-Professional	5	4	6	4	4
Total	21	21	20	20	19
Office of Economics					
Professional	34	32	32	32	30
Non-Professional	7	5	5	5	5
Total	41	37	37	37	35
Office of Aviation Operations					
Professional	45	45	42	45	45
Non-Professional	11	9	16	9	9
Total	56	54	58	54	54
Office of Int'l Aviation Relations:					
Professional	21	20	20	20	20
Non-Professional	7	6	8	6	6
Total	28	26	28	26	26
Total:					
Professional	152	148	142	146	142
Non-Professional	46	36	50	36	35
Grand Total	198	184	192	182	177

1/ Includes positions/FTE associated with research and development activities.

POLICY OFFICE—PERSONNEL COSTS

Mr. **Lehman**. For the record, please update the breakdown of PC&B costs for the assistant secretary for policy and international affairs similar to what appears on page 898 of last year's hearing record by adding a fiscal year 1987 column.

[The information follows:]

POLICY AND INTERNATIONAL AFFAIRS—PERSONNEL COMPENSATION [1]

	Fiscal year 1985 actual [2]	Fiscal year 1986 after sequestering	Fiscal year 1987 estimate
Full-Time permanent & Benefits	$8,569,580	$8,625,000	$8,615,000
Other than Full-Time Permanent	539,097	408,000	413,000
Other Personnel Compensation	140,323	115,000	106,000
Total PC&B	9,249,000	9,148,000	9,134,000

[1] Includes personnel costs associated with research and development activities.

[2] Includes fomer CAB staff for only ¾ year.

POLICY TPR&D PROGRAM

Mr. **Lehman**. Please provide for the record a breakdown of your TRP&D reimbursable contracts for fiscal years 1985 and 1986.

[The information follows:]

OFFICE OF POLICY & INTERNATIONAL AFFAIRS—TPR&D REIMBURSABLE CONTRACTS

[FY 1985–FY 1986]

FY 1985 Contracts:		
OST & FRA interagency Agreement	Impact of Railroad pricing of Transportation for coal mining to export.	$33,140
FY 1986 Contracts:		
OST/FRA Interagency Agreement	Drug Safety Program	10,000
OST/Federal Highway-University Research	Evaluation of Distress on Highway Pavement	50,000
OST/Federal Highway-University Research for North Carolina State.	Investigation of tire pavement interaction mechanics	60,000
OST/Federal Highway-University Research for Florida A&M.	Transportation Planning Application Seminar	20,000

TPR&D ACCOMPLISHMENTS

Mr. **Lehman**. What will be the three biggest accomplishments under the TPR&D program in fiscal year 1986?

[The information follows:]

A major accomplishment planned for the TPR&D program in FY 1986 is the development of a pilot project to demonstrate an automated tariff filing system. This is a significant step in the total computerization activity which will lessen the reporting burden on the aviation industry and permit the Department to perform this function more efficiently.

Another accomplishment planned for FY 1986 is an assessement of the impacts in urban mass transportation programs of the disadvantaged business enterprise requirement in the Surface Transportation Assistance Act of 1982. The scope of work of the project includes development of methodologies to use in assessing the signficance of impacts nationwide.

A third accomplishment of the Policy Office is the study of the impacts of the final rule on service to the handicapped by urban public transportation that the Department is about to publish. This rule is required by Section 504 of the Rehabilitation Act of 1973. This study assesses the financial impact on the transit industry of compliance with the rule. The study estimates the number of handicapped people that will use these services, and looks at a number of alternative ways of serving the handicapped under the rule. The results of the study will be published at the same time that the rule is issued, and will be useful to transit operators in determining how to comply with the rule.

TPR&D CONTRACTORS

Mr. LEHMAN. Please list the five largest TRP&D contractors for fiscal year 1985 and the amounts paid to each.

[The information follows:]

The five largest TPR&D contractors for fiscal year 1985 were:

Howard University	$200,000
Comsis Corporation	65,000
Harrison-Boyd Assoc.	40,000
Mandex, Inc.	33,000
Dr. R.B. Will	29,000

TPR&D PROJECTS

Mr. LEHMAN. Please provide for the record a breakown of your fiscal year 1985 TRP&D program similar to what appears on page 920 of last year's hearing record.

[The information follows:]

Fiscal year 1985 TPR&D appropriation by program-title and amount

	Thousands
Policy and International Affairs:	
Impact of Antitrust Immunity on Motor Carrier Industry	$25.0
ICC Implementation of Maximum Rate Regulation	40.0
Study of Class III Household Goods Carriers	33.3
United States-Mexico—Trucking Research	29.3
Manpower Needs in Caribbean & Central American Ports	10.0
Effectiveness of Airport Improvement Program	65.5
Rapid Transit Station Sites-A Planning Tool	200.0
Marine Safety Reporting (TSC)	220.0
Rail-Truck Competition (TSC)	114.0
Transit Revenue Ratio (TSC)	70.0
Maritime Regulatory (TSC)	80.0
Drug Use Safety Impact (TSC)	40.0
Emergency Locating Transmitter (TSC)	10.0
Maritime Industry Analysis (TSC)	150.0
International Airlines Passenger Data (TSC)	425.0
Program of University Research (TSC)	50.0
Sampling Survey (TSC)	25.0
Effects of Motor Carrier Act	5.0
Maritime Data Base	70.0
Airlines Data Analysis	468.8
Rail Regulatory Research (TSC)	63.0
Washington Heliport Study	51.7
Longer Combination Vehicles	45.0
Rail Transit Research	50.0
ADP Services	103.0
Visual Presentation Service	12.0
Building Maintenance	4.8
Emergency Response to Chemical Spills	80.0
Miscellaneous Small Purchases	3.0
Administrative Expenses	2,100.4
Total Policy and International Affairs	4,643.8

BUDGET AND PROGRAMS PERSONNEL COSTS

Mr. **Lehman**. Please provide for the record a breakdown of fiscal years 1985, 1986, and 1987 PC&B costs for the assistant secretary for budget and programs.

[The information follows:]

ASSISTANT SECRETARY FOR BUDGET AND PROGRAMS PERSONNEL COMPENSATION AND BENEFITS

	FY 1985	FY 1986 After Sequestering	FY 1987
Full-Time Permanent & Benefits	$1,979,624	$1,985,00	$2,009,000
Other than Full-Time Permanent	50,951	30,000	30,000
Other Personnel Compensation	53,919	25,000	25,000
Total PC&B	2,084,494	2,040,000	2,064,000

BUDGET AND PROGRAMS—OTHER COSTS

Mr. **Lehman**. Please also provide for the record a breakdown of assistant secretary for budget and programs "other costs" for fiscal years 1985, 1986, and 1987.

[The information follows:]

ASSISTANT SECRETARY FOR BUDGET AND PROGRAMS—OTHER COSTS

	FY 1985	FY 1986 After Sequestering	FY 1987
Travel	$3,623	$8,000	$8,000
Contractual Services	1	9,000	8,000
Reception and Representation	32,843	29,000	30,000
Total	36,467	46,000	46,000

GOVERNMENTAL AFFAIRS PERSONNEL COSTS

Mr. **Lehman**. On page 24 please explain your proposed reduction of only $45,000 for personnel compensation and benefits associated with the reduction of two positions under the proposed termination of the essential air service program. What are the position titles, grades and salary levels of these two positions?

[The information follows:]

The proposed reduction of $45,000 for personnel compensation and benefits associated with the reduction of two positions under the proposed termination of the Essential Air Service program assumes loss for an average of one-half year (one FTE). The most common grade among analysts in the office is GS-11, $26,381. Clerical support at the GS-05 level, $14,390, and benefits in the amount of $4,077 were also included in the figure.

TECHNOLOGY SHARING ACCOMPLISHMENTS

Mr. **Lehman**. Under Governmental Affairs, what were your four most significant accomplishments of your technology sharing program and intermodal planning activities during the past year?

[The information follows:]

The most significant accomplishments of the technology and intermodal planning activities were in the following areas:

1. *Financing Options*—Because of the continuing pressures on funding sources for transportation, the program has assembled and disseminated a variety of materials on experiences with state/local financing approaches and sources. Much of this work dealt with transit and was done cooperatively with UMTA. Topics covered during fiscal year 1985 included dedicated transit taxes, an overview of state level options, joint development for fixed guideway and coventional bus systems, private financing or marketing of commuter services, and loan-based vanpool programs. An overview document on innovative financing was also developed as part of the preparations for a national symposium on financing approaches intended to deal with all modes. A casebook on public-private cooperation was also being finalized for completion and dissemination during fiscal year 1986. This work is intended to surface options state or local officials can consider as alternatives to the financing methods they had previously used, and which have worked successfully for other localities.

2. *Planning and Decision Support*—In conjunction with the operating administrations, the program has assembled and disseminated materials intended to enhance the sophistication of state/local planning, and to provide backup to the decision-making of these governments. In conjunction with the Federal Highway Administration, the program finalized and disseminated a summary planning data document for urbanized areas. Several products dealing with the application of microcomputers to specific transportation problems were released. Transit-related issues covered included the links between transit and development, demand for community-scale transit services, data collection design and procedures, and bus safety and risk management. Special issues like the changing roles of women and their impact on travel patterns were also covered.

3. *Safety and Security in Transportation*—During fiscal year 1985, a departmental emphasis was growing toward improving safety and security on our nations's highways, buses, railroads, air system and waterways. Several studies from this program enhanced this effort including a study of factors affecting bus crime, child passenger safety, economic incentives and public education for increased seat-belt use, state of Wisconsin rural transit vehicle insurance study, bus safety manual, a compilation of state alcohol and highway safety legislation, U.S. Coast Guard data on port security, and a conference on work zone traffic control.

4. *Improved linkage with planning agencies*—As part of the process of interacting with transportation agencies throughout the country, an Intermodal Planning Directory was published which identifies each of the Metropolitan Planning Organizations throughout the country and included, for the first time, the transit operators in all urbanized areas. This supports administration emphasis on involving transit operators in planning and programming of all transportation facilities and services. The directory included names of key persons at both the state and local levels, and was developed with input and close cooperation with each of the states. This not only provides the Department with a necessary reference, but also responds to requests from both the public and private sector for names and identification of persons and organizations involved in the urban planning process.

GOVERNMENTAL AFFAIRS R&D

Mr. **Lehman**. On page 24 you are proposing a 50 percent increase—from $100,000 to $150,000 in "research and development contractual support" for fiscal year 1987. Why is this increase necessary and what specific technology transfer and transportation planning activities do you intend to continue or to initiate during fiscal year 1987 at the proposed level of funding?

[The information follows:]

The Technology Sharing Program is structured to support State and local governments with research and technical information directly applicable to meet their expressed problems and needs. With minimal Federal investment in this information program, it is possible to save State and local governments hundreds of thousands of dollars simply by sharing information in a form useful to others experiencing the same or a similar problem. Over the last decade this program has evolved from an active initiator, planting "seed money" to generate needed research, to a new role of providing a Federal focal point for outreach to the transportation community and the state and local governments that require various transportation systems.

In addition to our previous role, we are now in a position to provide evaluations of new trends to our users. State and local governments and the transportation community themselves are now providing us many new and innovative research products which are or can easily be made usable for other jurisdictions. Although we no longer require as much research money as we had in many past years to stimulate needed research in new fields, we now find that we have become a new focus for administrative outreach in preparation and dissemination of new research material and therefore require an increase in funds once again to continue to provide these services to our increasing State and local government constituencies (although still not approaching the funding levels we had when more "research" was necessary).

With small research initiatives, we hope to further assimilate and develop information on alternative financing of transportation systems, rural projects on low-density passenger and freight services, and increase our program emphasis in transportation safety and security areas.

GOVERNMENTAL AFFAIRS—OTHER COSTS

Mr. LEHMAN. Please update for the record the "other costs" table appearing on page 900 of last year's hearing record by adding a 1987 column.

[The information follows:]

OFFICE OF THE ASSISTANT SECRETARY FOR GOVERNMENTAL AFFAIRS, OTHER COSTS

OFFICE	FY-85	After Sequestering FY-86	FY-87
Immediate Office:			
Travel	$2,000	$5,000	$5,000
Other Services	3,200	5,000	5,000
Congressional Affairs:			
Travel	2,300	4,000	4,000
Other Services		4,000	4,000
Intergovernmental:			
Travel	6,700	(2)	(2)
Other Services		(2)	(2)
Technology Sharing:			
Travel	4,000	5,000	5,000
Other Services	2,000	46,000	46,000
Community and Consumer Affairs: (1)			
Travel	400	(2)	(2)
Other Services		(2)	(2)
Intergovernmental and Consumer Affairs:			
Travel		8,000	8,000
Other		7,000	7,000
Total	20,600	84,000	84,000

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(1) The Office of Community and Consumer Affairs was established as a result of CAB sunset.

(2) The Office of Intergovernmental and the Office of Community and Consumer Affairs were combined into the Office of Intergovernmental and Consumer Affairs.

ADMINISTRATION—OTHER COSTS

Mr. **LEHMAN**. On page 26 please explain the 26 percent increase in "other costs" for the assistant secretary for administration.

[The information follows:]

Higher rates charged by the General Services Administration for space rental accounts for $1,934,000 or 70 percent of the increase. Standard Level User Charge rates per square foot of office space in the Nassif Building increased from $15.03 in FY 1986 to $22.95 in FY 1987.

Also, included is $400,000 for development of an automated tariff filing sytem. Currently, this information is processed manually and is time consuming and unwieldy. Implementation of a computerized system will result in long term savings for both industry and the Department.

The remaining $436,000 is required to fund administrative type activities formerly included as part of the TPR&D Appropriation ($150,000) and to provide for anticipated inflationary increases in the cost of equipment, supplies and housekeeping services ($316,000).

AUTOMATED TARIFF SYSTEM

Mr. **LEHMAN**. On page 27 you indicate you are proposing to develop an automated airline tariff filing system. Why do you need this new system and how much will the total cost be?

[The information follows:]

The Department has reached the saturation point in its attempt to efficiently and expeditiously fulfill its statutory and regulatory responsibilities regarding international tariff filings utilizing the current manual system.

We estimate that there are approximately 25,000 tariff changes submitted per day. There are approximately 145 current tariffs totalling over 20,000 pages. Individual tariffs range in size from a few pages in length to over 2,000 pages. Approximately 95% of all tariff filings are submitted as special tariff permission (short notice) applications which the Department attempts to process within a 24-hour period. We receive approximately 750 special tariff permission applications each month.

The workload for the Department has increased dramatically. In the twenty year period between 1962 and 1982 tariff filings have escalated by 616%. Discounting the deregulation of domestic transportation, the percentage workload increase over 1962 is still a staggering 400%, while the workforce has declined by 40% over the same period. Accordingly, the number of filings per employee has increased 4 times over the last 10 years. During 1985, tariff filings increased by approximately 18% over 1984. Further, we fully expect this growth trend to continue.

We have streamlined various administrative procedures in order to expedite processing and increase productivity. Also, we have designed various automated systems which are utilized to satisfy some of our analytical requirements. These include the Standard Foreign Fare Level (SFFL) information, direct-service carrier data, foreign currency conversion tables, and European Civil Aviation Conference (ECAC) structure and parameters. However, it should be apparent that quality must suffer as corners are cut to keep up with the ever increasing workload requirements of the Department. At this time, we cannot envision the institution of any further techniques which will improve the manual tariff filing system.

On June 21, 1985, the Department received a preliminary feasibility study and cost analysis report on automating the international tariff filing system. The report concluded that the cost to design, program, test, and document an automated system for the Department would be approximately 2.2-million dollars over a five year period. Operational costs were estimated to range from 16.6-thousand dollars per month, as the first step of development is completed, to 38.7-thousand dollars per month as the entire tariff system becomes operational.

The developmental costs for the proposed filing system were based on software and mainframe equipment currently available or as planned procurements for the Transportation Computer Center (TCC). The estimates did not include the purchase costs for additional mainframe equipment and software if needed.

The development of the international tariff filing system will be accomplished in stages. For each stage of development we will review the implementation and design specifications to verify their accuracy. As each developmental stage is completed, a cost and time review will be performed to determine if budget estimates are correct.

We have an opportunity to lessen the regulatory burden on the aviation industry by automating the laborious and unjustifiably expensive international tariff structure. Comments from the aviation industry to an Advance Notice of Proposed Rulemaking (50 FR 33452, August 19, 1985) indicate that they are extremely enthusiastic and supportive of our intent to automate the current tariff system.

The Department of Transportation is managing an avalanche of paper known as the international tariff filing system. The Federal Aviation Act requires both United States and foreign carriers to file their international fares, cargo rates, and related rules with the Department, and charges the Department with the responsibility for reviewing and approving or disapproving these tariff filings, as well as maintaining the public tariff files. All of this is done manually, with a filing and review system that dates back to at least 1887, and in the last 100 years it has remained relatively unchanged.

All major air carriers and tariff filing agents have automated: the Department has not. As a result, the industry spends about $5 million a year to produce, file, and distribute paper tariff documents. The Department is spending more than $500,000 per annum just to process the paper.

The tariff volume is enormous, and it has increased at an average rate of 6 percent a year over the last five years. That trend is likely to continue for the foreseeable future. Handling massive databases like this, with rapid changes and revisions, is precisely what computers are designed to do. The Department has gone as far as it can with the manual mode, without seriously compromising the integrity of the tariff system. The current international tariff filing method cannot serve the public, government, or the air transportation industry as efficiently nor as effectively as an automated system.

ADMINISTRATION—OTHER COSTS

Mr. Lehman. Please provide for the record a detailed breakdown of fiscal years 1984, 1985, 1986 and 1987 "other costs" for the assistant secretary for administration similar to that which is shown on pages 900 and 901 of last year's hearing record.

[The information follows:]

ASSISTANT SECRETARY FOR ADMINISTRATION—OTHER COSTS

[Dollars in thousands]

	1984	1985	1986	1987
Travel	$98	$62	$60	$60
Transportation of things	12	47	4	9
SLUC	3,440	3,644	3,671	5,605
Other rents, comms & utilities	1,210	1,181	1,173	1,250
Printing and photo	938	846	912	942
Contractual services	4,209	5,937	4,856	5,525
Supplies	237	140	180	215
Equipment	121	160	50	100
Total	10,265	12,017	10,906	13,706

ADMINISTRATION—STAFFING

Mr. Lehman. Please also update the staffing data for this office found on pages 902 and 903 of last year's hearing record and add a 1987 column.

[The information follows:]

ASSISTANT SECRETARY FOR ADMINISTRATION
STAFFING

	1984		1985		1986		1987	
	S&E	WCF	S&E	WCF	S&E	WCF	S&E	WCF
Assistant Secretary's Office								
Authorized positions	7	-	5	-	7	-	7	-
FTE ceiling	7	-	5	-	7	-	7	-
End-of-year on-board FTP	4	-	5	-	7	-	7	-
Personnel and Training								
Authorized positions	50	7	60	8	54	8	54	8
FTE ceiling	56	7	59	8	58	8	58	8
End-of-year on-board FTP	45	6	55	7	54	8	54	8
Management Planning								
Authorized positions	22	-	19	-	18	-	18	-
FTE ceiling	22	-	20	-	18	-	18	-
End-of-year on-board FTP	22	-	20	-	17	-	17	-
Information Systems and Telecommunications Policy								
Authorized positions	19	24	16	24	17	24	17	22
FTE ceiling	16	32	17	22	18	22	18	20
End-of-year on-board FTP	14	16	17	18	17	22	17	21
Administrative Operations								
Authorized positions	27	300	39	313	22	282	20	278
FTE ceiling	27	291	37	299	22	278	20	269
End-of-year on-board FTP	26	248	27	273	21	270	20	270
Installations and Logistics								
Authorized positions	26	-	25	-	26	-	26	-
FTE ceiling	28	-	26	-	26	-	26	-
End-of-year on-board FTP	21	-	25	-	26	-	26	-
Financial Management								
Authorized positions	14	1	20	1	25	1	23	1
FTE ceiling	13	1	19	1	25	1	24	1
End-of-year on-board FTP	12	1	19	1	24	1	23	1
Office of Hearings								
Authorized positions	-	-	8	-	8	-	8	-
FTE ceiling	-	-	6	-	8	-	8	-
End-of-year on-board FTP	-	-	8	-	8	-	8	-
Total								
Authorized positions	165	332	192	346	177	315	173	309
FTE ceiling	169	331	189	330	182	309	179	298
End-of-year on-board FTP	144	271	176	299	174	301	172	300

MAJOR MANAGEMENT EVALUATIONS

Mr. LEHMAN. Please also provide for the record a listing of the major management evaluations performed by this office beginning on the end date of last year's submission and bringing it up to date. Please also include a short summary of the major findings and recommendations of each study.

[The information follows:]

OFFICE OF ASSISTANT SECRETARY FOR ADMINISTRATION—MANAGEMENT EVALUATIONS

The in-depth analysis of the DOT Personnel Office organization and staffing structure was performed in conjunction with the DOT Administrative Support Consolidation Study. The purpose of the evaluation was to examine the feasibility of consolidating personnel functions for all Departmental elements except FAA, USCG, and SLSDC. Study methodology included analysis of: previous Departmental studies; consolidation efforts in other agencies; staffing ratios developed by the President's Council on Management Improvement; DOT survey questionnaire data; and information obtained from interviews with each Personnel Officer. Three distinct options were developed for consideration by top management.

An evaluation of the Unemployment Compensation Program focused on the problems and vulnerabilities cited in a FY 1984 study of Unemployment Compensation conducted by the Office of Inspector General. Specific areas addressed included identification of the underlying problems cited in the report and the development of more effective procedures in areas over which DOT has control, e.g., processing of separation information forms, appealing state decisions on claim eligibility and verification of chargeback bills.

A multi-year evaluation of Automated Personnel and Payroll Systems began in FY 1983 and was initiated for the primary purposes of assessing the adequacy of existing systems and exploring the potential of consolidation. A major contractor study of system integration was completed in FY 1984, and in FY 1985 work began to develop system requirements for an integrated payroll/personnel system.

A study of the Performance Appraisal Program included a review of the current system for possible methods of streamlining and reducing paperwork, and effective construction and utilization of performance review boards. A number of other agencies have been surveyed for ideas, and recommendations have been solicited from a committee of program officials currently in the Senior Executive Service.

A Department-wide study was conducted to identify DOT data communications networking requirements. A contract has just been awarded by FAA for an FAA-wide administrative data network which could potentially serve as the foundation for a DOT-wide data network. A study to be undertaken in the near future will determine the cost effectiveness and feasibility of using the network for this purpose.

An assessment of opportunities to enhance technical and economic performance of the Transportation Computer Center was undertaken. It was determined that upgrade of the Amdahl 5850 would provide a cost effective way to establish a single hardware/software environment which will operate at industry standards and provide technical support which will take advantage of economies of scale. Production processing on the IBM 4381, Honeywell 6000 and Amdahl 470/V7A will be phased out and the Amdahl 5850 upgraded to Amdahl 5868. This will increase lines of code by 122 percent in 18 months and decrease lines of code cost by 20 percent.

A management effectiveness study of the Library function was completed. The configuration for the "most efficient organization" included a reduction of 1.5 FTEs and several downgrades. Implementing this recommended organization will result in Department-wide annual savings of $93,434.

A management effectivenss study of the Distribution function was completed. The configuration for the "most efficient organization" included a reduction of 9.72 FTEs and several downgrades. Implementing this recommended organization will result in Department-wide annual savings of $195,878.

A survey of the administrative practices employed in managing the Urban Mass Transportation Administration's (UMTA) Research, Development and Demonstration program was completed. As a result of this review, we recommended that UMTA: (1) develop a national R&D strategy; (2) streamline its funding procedures; (3) establish clear policy and procedures for determining eligible activities; (4) implement the provisions of the Federal grant and cooperative agreement act; (5) consistently apply payment procedures and (6) follow procedures for the prompt close out of completed projects.

ADMINISTRATION—MAJOR ACCOMPLISHMENTS

Mr. **Lehman**. Please also provide a listing of the major accomplishments in fiscal years 1985 and 1986 for each office within the office of the assistant secretary for administration.

[The information follows:]

OFFICE OF ASSISTANT SECRETARY FOR ADMINISTRATION
Major Accomplishments

Office of Personnel and Training

Coordinated successful incorporation of the Maritime Administration personnel and payroll systems into the consolidated DOT systems.

Conducted Departmental feasibility study regarding the integration of the Department's personnel and payroll systems.

Developed and implemented a uniform DOT-wide Performance Management and Recognition System for supervisors and management officials at the grade 13, 14, and 15 levels. The system uses performance appraisal as a basis for pay increases and performance awards, as well as for a variety of other personnel actions.

Continued high level emphasis on improving opportunities for women resulting in a 600-position increase in the number of women in grades 13 and above; over 570 DOT women on their way to new or different careers through the Upward Mobility Program; the Graduate Cooperative Education Program and the FAA Air Traffic Controller Cooperative and Predevelopment Program; over 200 selections for assignments in the Professional Exchange Program; and over 570 women attending the Seminar for Prospective Women Managers.

Office of Management Planning

Prepared draft studies on the potential for consolidation of administrative services for the small operating administrations, i.e., FHWA, NHTSA, UMTA, FRA, RSPA, MARAD and OST.

Conducted a review of the field structure of the National Highway Traffic Safety Administration, Urban Mass Transportation Administration, and Federal Highway Administration.

Conducted a review of the gray market motor vehicle compliance certification process to identify administrative improvements which might assist NHTSA in its management of the gray market backlog.

Coordinated the Department's Internal Control Program and prepared the Department's annual report to the President and Congress in accordance with the Federal Managers' Financial Integrity Act.

Office of Information Systems and Telecommunications Policy

Developed a prototype system to assess the feasibility of implementing a Departmental Information Resources Management and Planning System (DIRMAPS). The development included collecting data that provides comprehensive views of planning and managing user needs, software applications and hardware. The next phase will convert the prototype to process as an initial production DIRMAPS. This phase is currently underway.

Established a basic ordering agreement using value engineering change proposal provisions. This assists users within the Department of Transportation in identification of cost reduction opportunities for services obtained under the established prices and pricing options. Significant cost reductions have resulted from this procedure.

The Department has awarded a contract for the procurement of a computerized communications system in the three Headquarters buildings. Installation is proceeding with cutover planned for July 1986. The system will provide greatly improved telecommunications services at a lower cost to the Department. The current estimate of the ten year savings is 8 to 10 percent above $47 million, based on continually increasing tariffs and lower initial procurement costs for the DOT system.

Office of Administrative Operations

Promoted 8(a), small business, and women owned business programs and exceeded our contracting dollar goals. These goals were achieved by the active screening of procurements and in-depth research of existing eligible firms.

Area	Goal	Accomplishment	Percentage
8(a)	$ 7.2 million	$12.0 million	167%
Small Bus.	$14.9 million	$18.0 million	121%
Women Owned	$ .2 million	$ .3 million	150%

Monitored publication and graphics expenditures to effect a 25.9 percent or $2.7 million reduction in spending in compliance with the Deficit Reduction Act of 1985.

Reduced OST space utilization rate from 197 square feet per person in FY 1985 to 171 square feet per person in FY 1986 (a thirteen percent reduction).

Office of Hearings

Processed, as required, aviation-related cases instituted by the Office of the Secretary of Transportation under Titles IV and X of the Federal Aviation Act. These cases include proceedings to determine air carrier fitness and certification, enforcement investigations, merger and acquisition applications, employee protection program qualifications, and international route authority. The Office of Hearings has also been engaged in processing hazardous materials cases, safety-related cases, and other nonaviation-related cases.

Office of Installations and Logistics

Assisted the Senior Competition Advocate in developing and implementing the Department's Competition Advocacy Program. Provided technical assistance on program and contracting issues. Assisted in the preparation of the Secretary's annual competition report to Congress. Increased competitive procurements to 89 percent of the total dollars awarded during FY 1985. This rate is high compared to other agencies which procure similar types of goods and services, and reflect a continued intensive effort on the part of the Department to use competitive procurement wherever possible.

Worked with Coast Guard to: streamline their major system acquisition review process; implement the recommendations of the Logistics Management Institute and Chief of Staff acquisition; and improve their working relationship with OST.

Provided assistance to the Deputy Secretary as the Executive Secretary of the Transportation Systems Acquisition Review Council in the review of major programs with special emphasis on the Federal Aviation Administration's (FAA) National Airspace System Plan.

Office of Financial Management

An Alternative Travel Payment System involving the use of travel charge cards and travelers checks by employees on official travel was instituted to greatly reduce the number of and amount of travel advance payments. Additionally, a Travel Management Center (TMC) was established at the Departmental headquarters to provide a full-range of services to employees. The TMC is expected to provide management with improved control of travel assignments and travel dollars.

Conducted an organizational survey to determine the volume of transactions, FTE supporting accounting activity and process flows for each of its administrations. This information will be used to decide on the most appropriate organizational structure in which to develop the Department-wide Accounting and Financial Information System. Our organizational structure goals for the Department are to reduce the number of accounting offices in the Department and to consolidate the existing accounting systems into one.

As part of the Government-wide Accounting System Project, a DOT led Interagency Group developed a proposed Government-wide General Ledger, and submitted it for comments to other agencies. The proposed general ledger document includes a chart of accounts; account definitions transactions with related debit and credit entries; crosswalks to the external reports; standard data elements; and data element definitions.

The Department has completed 24 of the original 25 initiatives identified in the Department's Cash Management Plan. The two most significant initiatives involved the use of Treasury's Electronic Funds Transfer System (TFCS) for disbursing vendor and letter-of-credit payments. A total of $5.2 million in cash management interest savings was reported to Treasury for FY 1985 as a result of completing these initiatives.

SUPPORT POSITIONS

Mr. LEHMAN. On page 29 you are proposing a reduction of one non-professional position due to the proposed termination of the EAS function. The associated cost reduction is $38,000. Why is the cost reduction associated with the elimination of one non-professional position greater than the average cost reduction ($29,250) associated with the elimination of four professional positions under the Assistant Secretary for Administration due to proposed elimination of the EAS function?

[The information follows:]

The proposed reduction of $38,000 for personnel compensation and benefits associated with the termination of the Essential Air Service program assumes loss of one position for a full year (or one FTE). The reduction of four positions under the Assistant Secretary for Administration assumes an average of three-fourths of a year (or three FTE), with an average of $39,000 per FTE.

PUBLIC AFFAIRS—OTHER COSTS

Mr. LEHMAN. Please update for the record the "other costs" breakdown for the assistant secretary for public affairs found on page 914 of last year's hearing record and add a 1987 column.

[The information follows:]

ASSISTANT SECRETARY FOR PUBLIC AFFAIRS OTHER COSTS

	1985 Actual	1986 Estimate	1987 Estimate
Travel	6,200	10,000	10,000
Contracts	29,000	48,000	48,000
Total	35,200	58,000	58,000

MOTION PICTURE FILMS

Mr. LEHMAN. Please also update the motion film production data found on page 914 of last year's hearing record and also indicate what is planned for fiscal year 1987.

[The information follows:]

Motion picture film production-fiscal year 1986/planned fiscal year 1987

Federal Aviation Administration:
    Fiscal year 1986:
        Airport Capacity: Not produced.
        Certification Process for Aircraft: Not produced.
            Total fiscal year 1986: None.
    Fiscal year 1987: Not planned.
U.S. Coast Guard:
    Fiscal year 1986: Not planned.
    Fiscal year 1987: Not planned.
Federal Highway Administration:
    Fiscal year 1986: Not planned.
    Fiscal year 1987: Not planned.

MBRC PROGRAM LEVEL

Mr. LEHMAN. What is your proposed program level for fiscal year 1987 for the Minority Business Resource Center?

[The information follows:]

The proposed program level for fiscal year 1987 is $4 million which includes $500,000 of estimated carryover.

MBRC CONTRACTS

Mr. LEHMAN. Please provide for the record a breakdown of MBRC contracts for fiscal years 1985 and 1986 to date similar to what appears on pages 915 and 916 of last year's hearing record.

[The information follows:]

MBRC CONTRACTS FY 85

Contractor	Purpose	Amount
1. National Business League	Conference Support	$350
2. Burroughs	Maintenance Agreement Telefax Equipment	10,760
3. ASK Associates	Technical Assistance Support	60,122
4. Opportunity Systems	National Information Clearinghouse	146,910
5. Native American Consultants, Inc.	Nationwide NABE	210,795
6. Kendall Square	Boston—PMC	200,949
7. Arawak Consulting	New York—PMC	222,492
8. The Omega Group	Philadelphia—PMC	327,581
9. The Omega Group	Washington, DC—PMC	314,650
10. The Omega Group	Florida—PMC	197,559
11. Garrett, Sullivan	Atlanta—PMC	225,564
12. NORCOM	Chicago—PMC	306,876
13. Avante International	Dallas—PMC	258,164
14. Ralph C. Johnson	Kansas City—PMC	215,210
15. Ashby Armstrong	Denver—PMC	241,606
16. Washington Consulting	Phoenix—PMC	199,143
17. Equivest Associates	Los Angeles—PMC	225,438
18. Branch Richards	Seattle—PMC	243,559
19. Tucker & Associates	Increase for New Orleans—PMC	19,246
20. Dale Saunders	Participating Bank Survey	9,000
21. Free Spirit	Public Relations	2,240
22. Inez Kaiser & Assoc.	Survey	9,500
Total		$3,647,716

MBRC CONTRACTS FY 86 THRU MAY 13, 1986

Contractor	Purpose	Amount
1. Burroughs	Maintenance Agreement Telefax Equipment	$10,293
2. Washington Consulting	HRE Outreach	91,041
3. Triton	National Information Clearinghouse	182,977
4. Kendall Square	PMC Extension thru 12/85	44,500
5. Arawak Consulting	PMC Extension thru 12/85	54,809
6. Omega Group—Wash., DC	PMC Extension thru 12/85	75,727
7. Omega Group—Phila.	PMC Extension thru 12/85	75,253
8. Omega Group—Miami	PMC Extension thru 12/85	43,631
9. NORCOM	PMC Extension thru 12/85	68,849
10. Garrett Sullivan	PMC Extension thru 12/85	56,126
11. Avante International	PMC Extension thru 12/85	63,347
12. Tucker & Associates	PMC Extension thru 12/85	66,367
13. Ralph C. Johnson	PMC Extension thru 12/85	53,492
14. Ashby Armstrong	PMC Extension thru 12/85	60,247
15. Washington Consulting	PMC Extension thru 12/85	49,733
16. Equivest Associates	PMC Extension thru 12/85	46,684
17. Branch Richards	PMC Extension thru 12/85	60,354
18. Native American Consultants, Inc.	NABE Extension thru 12/85	43,803
19. Tucker & Associates	WBE Effort (In negotiation)	200,000
20. META, Inc.	Outreach/Public Relations (In negotiation)	50,000
21. Burroughs	Packing & Shipping of equipment	10,000

MBRC CONTRACTS FY 86 THRU MAY 13, 1986—Continued

Contractor	Purpose	Amount
22. Omega Group, Inc.	Chicago—PMC	314,965
23. Kendall Square	New York—PMC	262,591
24. Avante International	Dallas—PMC	208,455
25. Chess & Associates	Los Angeles—PMC	209,626
26. Omega Group, Inc.	Baltimore—PMC	208,866
27. Omega Group, Inc.	Atlanta—PMC	156,696
28. Ashby Armstrong	Denver—PMC	157,894
29. Young, Robinson Assoc.	New Orleans—PMC	158,000
30. Washington Consulting	Miami—PMC	194,105
31. Ashby Armstrong	Rapid City—PMC	100,884
32. Branch Richards Anderson	San Francisco—PMC	262,054
Total		$3,641,369

SECRETARIAL OFFICES MAJOR ACCOMPLISHMENTS

Mr. LEHMAN. Please also list for the record the three major accomplishments for each Secretarial office in fiscal year 1985.

[The information follows:]

Science & Technology Advisor: (1) Coordinated the development and implementation of a Departmental R&D review process. Reviews were instituted in the DOT Operating Administrations to insure R&D program objectives were consistent with Departmental policy initiatives. (2) Periodically reviewed the status of major DOT Operating Administrations' initiatives to monitor and evaluate progress. Reviewed individual projects and proposals in order to eliminate duplication and to minimize overlap wherever possible. (3) Provided advice and assistance to the Office of the Secretary and modal Administrators on technical aspects of a variety of issues, studies, procurements, proposals and rulemakings.

Contract Appeals Board: (1) The Board received 120 appeals and closed 147 appeals, thus reducing the docket by 27 appeals. (2) Closed five multi-million dollar cases, involving many appeals, which totaled over $23.5 million. (3) Continued to comply with the mandatory time period for rendering decisions in small claims appeals ($10,000 and under) and accelerated appeals ($50,000 and under) as prescribed by the Contract Disputes Act of 1978.

Departmental Office of Civil Rights: (1) Reduced the backlog of appeals of denial of minority enterprise certification from 154 to 66 and the average processing time from 100 days to 33 days. (2) Received approval by the Department of Justice on the Department's Civil Rights Implementation Plan. (3) Streamlined the complaint handling process, which resulted in a substantial reduction of case workload of equal employment opportunity complaints of discrimination. Fifty-nine percent of active cases were processed and closed.

Office of Small & Disadvantaged Business Utilization: (1) Developed and implemented a program to assist the minority and women business community in marketing their firms with the Department of Transportation. The program is primarily designed to assist those firms located outside of the Washington Metropolitan area who have limited time during their marketing visits to the Department. (2) Implemented a DOT/SBA 8(a) Pilot Program. On September 30, 1983 the President designated the DOT to participate in the SBA 8(a) Pilot Procurement Program, the purpose of which was to identify contracting opportunities which provided a strong base of contract support to encourage and enhance 8(a) firms' business development growth. As a result of DOT's close coordination with the SBA, the DOT pilot program successfully avoided many of the controversies associated with the operation of a similar pilot program by the Army. At the completion of the pilot program on September 30, 1985, it included 14 projects at an estimated total dollar value of $200 million. (3) Developed a Uniform Reporting System for Minority Business Enterprise-Disadvantaged Business Enterprise/Women-owned Business Enterprise (MBE-DBE/WBE) Awards. In coordination with DOT Operating Administrations, has developed a uniform reporting instrument which recipients of DOT financial assistance funds are using to report awards to MBEs/DBEs/WBEs as required by DOT regulations. The uniform reporting instrument received approval from OMB for its use through July 31, 1988.

Commercial Space Transportation: (1) Published a Notice of Policy in the Federal Register (February 25, 1985) outlining commercial space launch licensing policies and procedures. (2) Participated in deliberations by the Senior Interagency Groups on Space, the Cabinet Council on Commerce and Trade Working Group, and the President's National Commission on Space regarding national space policy issues. (3) Developed, in consultation with the Department of Justice, the Department of Defense and NASA, and acceptable approach to implementing third party liability insurance requirements for private firms seeking to launch expendable launch vehicles on a commercial basis and issued an Advance Notice of Proposed Rulemaking on this subject (May 7, 1985).

Essential Air Service: (1) For the fourth consecutive fiscal year, reduced total subsidies for carriers providing essential air service -- from $36.6 million in FY 1984 to $32.5 million in FY 1985. (2) At the same time, average subsidy per point for locations in the lower 48 states receiving service under carrier-selection rates was reduced from approximately $287,957 in February 1985 to $229,144 in February 1986. (3) Following the transfer from the Civil Aeronautics Board, the Essential Air Service Program was successfully integrated into the Department.

EAS SUBSIDY PAYMENTS BY COMMUNITY

Mr. **Lehman**. Would you update for the record the list of the subsidized points and the amount of subsidies attributed to each for fiscal year 1985, similar to that contained on pages 925 and 926 of part 6 of last year's hearings? Please add a column for fiscal year 1986.

[The information follows:]

The following table reflects the annual subsidy rates in effect on February 1, 1986.

The following two lists show the carriers and points (a) receiving long-term subsidy as of February 1, 1986, and (b) which have received hold-in compensation for the first five months of Fiscal Year 1986. Because hold-in subsidies are triggered by carriers filing notice to halt services at points, and because there is no way to predict which carriers will file notice at which points, we cannot project what carriers or points might receive hold-in subsidies during all of Fiscal Year 1986.

Carriers Which Are Receiving Long-Term Section 419 Compensation and the Communities Served, February 1, 1986

Carriers	Communities Served	Annual Compensation (As of 2/1/86)
AAA Airlines	Columbus, Norfolk, NE; Yankton, SD	$ 897,091
Air Kentucky	Mt. Vernon, IL	390,362
Air Midwest	Dodge City, Garden City, Goodland, Great Bend, Hays, Hutchinson, Parsons, KS; Lamar, CO; Harrison, Jonesboro, AK	2,318,706
Alaska Airlines	Cordova, Gustavus, Petersburg, Wrangell, Yakutat, AK	1,973,534
Alliance	Manistee/Ludington, MI; Manitowoc, WI, Marinette, WI/Menominee, MI	715,473
Alpine Aviation	Moab, UT	218,089
Atlantic Southeast Airlines	Gadsden, AL	111,409
Atlantis Airlines	Moultrie/Thomasville, GA	404,240
AVAir	Rocky Mount, NC	147,222
Bar Harbor Airlines	Lewiston/Auburn, ME	209,092
Bemidji Airlines	Thief River Falls, MN	198,472
Big Sky Airlines	Glasgow, Glendive, Havre, Lewistown, Miles City, Sidney, Wolf Point, MT; Williston, ND	1,850,000
Britt Airways	Sterling/Rock Falls, IL	242,022
Brockway Air	Plattsburgh, Massena, Watertown, Saranac Lake, Ogdensburg, NY	1,029,300
Cascade Airways	Olympia, WA	77,592
Centennial Airlines	Worland, WY	410,972
Chitina Air Service	Boswell Bay, Cape Yakataga, Chitina, Icy Bay, AK	127,888
Christman Air System	Beckley, Princeton/Bluefield, WV	552,895
Colgan Airways	Clarksburg, Morgantown, Elkins, WV; Hot Springs, VA	812,202

Carriers	Communities Served	Annual Compensation (As of 2/1/86)
Desert Sun Airlines	Blythe, CA	450,000
Direct Air	Kokomo, IN	286,907
Eagle Commuter	Brownwood, Paris, TX	621,359
Ellis Air Taxi	Chisana, Gulkana, May Creek, McCarthy, AK	56,333
Exec Airlines	Ponce, PR	205,134
Exec Express	Enid, Ponca City, McAlester, OK	676,421
Frontier Flying Service	Wiseman, AK	10,800
Golden Pacific Airlines	Kingman, Winslow, AZ	460,956
GP Express Airlines	McCook, Kearney, Hastings, Sidney, Alliance, Chadron, NE	1,325,076
Great Lakes	Clinton, Ottumwa, IA	548,421
Green Hills Aviation	Kirksville, MO	424,991
Harbor Air Service	Seward, AK	53,331
Harold's Air Service	Central, Circle, AK	32,136
Horizon Airlines	Moses Lake, WA; Pendleton, Salem, OR; Twin Falls, ID	655,970
Hub Air	Farewell, Flat, Takotna, Tatalina, AK	22,396
JetAire Airlines	Santa Fe, NM	79,099
Mesa Air Shuttle	Carlsbad, Hobbs, Gallup, Silver City, NM	443,596
Mesaba Airlines	Mason City, Fort Dodge, IA; Brookings, Huron, Mitchell, SD; Fairmont, Mankato, Worthington, MN	1,472,836
Pacific Southwest Airlines	Stockton, CA	240,159
Peninsula Airlines	Atka, St. George, Kodiak Bush Community Cluster, AK (19 points)	519,488
Precision Airlines	Montpelier/Barre, VT	155,232
Prime Air	Clarksville, TN	299,715
Rio Airways	Temple, TX	173,068
Rocky Mountain	Grand Island, North Platte, Scottsbluff, NE	480,003
Royale Airlines	Natchez, MS	114,681
Ryan Air Service	Council, AK	3,600
San Juan Airlines	Aberdeen/Hoquiam, WA	212,605
Simmons Airlines	Jackson, Sault Ste. Marie, MI	492,631
Sky West Airlines	Cedar City, UT; Page, AZ: Ely, NV	933,144
Sunbird	Athens, GA	250,033
WestAir	Crescent City, Santa Rosa, CA	404,105
Wheeler Airlines	Danville, VA	400,000
Wings West Airlines	Merced, Modesto, Visalia, CA	775,290
	Total, Normal Subsidy	25,955,277

Carriers Which Received Final Hold-In Rates During the First Five Months of Fiscal Year 1986

Seair Alaska	Cape Newenham/Cape Romanzof, AK	$ 28,278
Sunbird	Winston-Salem, NC	204,167
	Total	$232,445

Carriers Receiving Interim Hold-In Compensation, Fiscal Year 1986 1/

Air Midwest	Hot Springs, AR	$194,773
Britt Airways	Sterling/Rock Falls, IL	64,462
Pioneer	Alliance, Chadron, Sidney, NE	132,361
	Total	$391,596

1/ First five months of Fiscal Year 1986.

EAS OBLIGATIONS

Mr. LEHMAN. According to testimony last year, you expected to obligate $42 million in fiscal year 1985 for the payments to air carriers program. However, this year's justification indicates that you actually obligated about $35 million. Why were fiscal year 1985 PAC obligations lower than expected?

[The information follows:]

In the past year a number of subsidy rates were negotiated for amounts lower than the previous rates. For example, Alaska Airlines' rate for service to Cordova, Gustavus, Petersburg, Wrangell and Yakutat, Alaska, was reduced from $3,572,778 to $1,973,534, a decline of $1,599,244. Average subsidy per point has declined from $243,065 in February 1985 to $179,587 in February 1986. Also, some use-it-or-lose-it tests have been completed and points which did not meet the traffic test levels were suspended from the program.

Mr. LEHMAN. According to your justification, you had an unobligated carryover of $16.074 million as of September 30, 1985, for the PAC program. This amount combined with your fiscal year 1986 appropriation provides about $43 million for payments to air carriers. How much of this amount did you actually obligate for the first six months?

[The information follows:]

As of March 31, 1986, the obligations for the Payments to Air Carriers program total $11,001,000.

Mr. LEHMAN. How much do you expect to obligate for the remainder of this fiscal year?

[The information follows:]

We anticipate that the obligations for the remainder of the year will be approximately $21.5 million, making total obligations of $32 million. Because there are so many variables involved, it is impossible to project accurately the amount of hold-in subsidy in any year. We have consistently estimated about $4 million annually. The amount of hold-in subsidy depends on how many and when carriers file notice to leave points, how long they are held in, how promptly claims are filed, and how long it takes for the Department to audit and process claims.

Mr. LEHMAN. If the payments to air carriers program were continued in fiscal year 1987, how much do you believe would be obligated?

[The information follows:]

We believe payments to air carriers in fiscal year 1987 would be approximately $32 million.

EAS SUBSIDY PAYMENTS BY CARRIER

Mr. LEHMAN. For the record, please provide a list of section 419 subsidy payments by air carriers for fiscal years 1985 and 1986 to date.

[The information follows:]

The following table shows obligations and disbursements by carrier for fiscal year 1985 and payments for the first five months of fiscal year 1986.

PAYMENTS TO AIR CARRIERS
419 Subsidy
Summary of Obligations and Disbursements
Covering Operations
Fiscal Year 1985

NORMAL

As of March 31, 1986

Carriers	Obligations	Disbursements	Unliquidated
AAA Enterprise	889,390	889,390	
Air Midwest	2,392,815	2,392,815	
Air Midwest Skyways	130,131	130,131	
Air Virginia	70,812	70,812	
Airways of New Mexico	78,073	78,073	
Alaska Airlines	3,572,778	3,572,778	
Alpine Air	224,334	224,334	
American Central	177,617	177,617	
Atlantis	322,634	322,634	
Atlantic Southeast	310,481	310,481	
A V Air Service	56,369	56,369	
Bar Harbor	237,577	237,577	
Bemidji	317,616	317,616	
Big Sky	1,980,025	1,980,025	
Cascade	170,400	170,400	
Centennial	411,216	411,216	
Chitina Air Service	97,304	97,304	
Christman	475,476	475,476	
Clinton Aero	1,118,980	1,118,980	
Colgan	705,457	705,457	
Continental	446,172	446,172	
Crown	70,221	70,221	
Custom Aviation	535,219	535,219	
Direct Air	276,026	276,026	
Eagle Commuter	572,552	572,552	
Ellis Air Taxi	56,299	56,299	
Exec Express	425,188	425,188	
Flight Line	621,640	621,640	
Frontier Flying Service	7,700	7,700	
Golden Pacific	421,949	421,949	
Green Hills	431,976	431,976	
Harbor Air Service	27,540	27,540	
Harold's Air Service	52,952	52,952	
Horizon Airline, Inc.	1,257,836	1,257,836	
Mesa Air Shuttle	354,295	354,295	
Mesaba	2,225,162	2,225,162	
Metroflight/Eagle	72,422	72,422	
Pacific Southwest Airlines	324,382	324,382	
Peninsula	306,042	306,042	
Pioneer	1,000,783	1,000,783	
Precision Valley	191,298	191,298	
Prime Air	79,629	79,629	
Puerto Rico (Prinair)	146,406	146,406	
Rio	138,195	138,195	
Rocky Mountain	447,671	447,671	
Royale	193,790	193,790	
San Juan	260,996	260,996	
Scheduled Skyways	117,722	117,722	
Sea Airmotive	379,756	379,756	
Simmons	1,130,191	1,130,191	
Sky West	1,191,991	1,191,991	
South Central Air	2,646	2,646	
Sunbird Airlines	345,336	345,336	
Sun West	137,556	137,556	
Tennessee Airways	161,720	161,720	
West Air	413,476	413,476	
Wheeler Airlines	466,703	466,703	
Wings West	1,426,909	1,426,909	
Total as of Mar. 31, 1986	30,457,832	30,457,832	-0-
Total as of Feb. 28, 1986	30,476,679	30,495,996	<19,317>
Total during month of Mar. 1986	< 18,847>	< 38,164>	<19,317>

PAYMENTS TO AIR CARRIERS
419 Subsidy
Summary of Obligations and Disbursements
Covering Operations
Fiscal Year 1986

NORMAL

As of March 31, 1986

Carriers	Obligations	Disbursements	Unliquidated
AAA Enterprise	392,693	392,693	
Air Kentucky	153,859	153,859	
Air L. A.	9,522	9,522	
Air Midwest	489,525	489,525	
Alaska Airlines	1,039,414	1,039,414	
Alliance	205,421	205,421	
Alpine Air	92,724	92,724	
Atlantis	118,937	118,937	
Atlantic Southeast	24,877	24,877	
A V Air Service	57,861	57,861	
Bar Harbor	83,515	83,515	
Bemidji	83,288	83,288	
Big Sky	763,979	763,979	
Cascade	24,305	24,305	
CC Air, Inc.	65,056	65,056	
Centennial	172,514	172,514	
Chitina Air Service	31,176	31,176	
Christman	228,589	228,589	
Clinton Aero	424,615	424,615	
Colgan	305,556	305,556	
Continental	155,129	155,129	
Custom Aviation	172,719	172,719	
Direct Air	116,186	116,186	
Eagle Commuter	241,134	241,134	
Ellis Air Taxi	22,998	22,998	
Exec Express	272,676	272,676	
Executive Airlines	48,051	48,051	
Frontier Flying Service	3,150	3,150	
GP Express	196,195	196,145	
Golden Pacific	195,360	195,360	
Great Lakes	183,800	183,800	
Green Hills	170,870	170,870	
Harbor Air Service	11,062	11,062	
Harold's Air Service	36,906	36,906	
Horizon Airline, Inc.	236,107	236,107	
JetAire	17,793	17,793	
Mesa Air Shuttle	278,943	278,943	
Mesaba	824,406	824,406	
Pacific Southwest Airlines	52,078	52,078	
Peninsula	145,454	145,454	
Pioneer	180,188	180,188	
Precision Valley	53,368	53,368	
Prime Air	131,035	131,035	
Rio	59,988	59,988	
Rocky Mountain	181,050	181,050	
Royale	50,921	50,921	
San Juan	77,886	77,886	
Sea Airmotive	89,847	89,847	
Simmons	132,946	132,946	
Sky West	384,922	384,922	
Sunbird Airlines	97,469	97,469	
West Air	154,092	154,092	
Wheeler Airlines	127,912	127,912	
Wings West	230,498	230,498	
Total as of Mar. 31, 1986	10,100,565	10,100,565	
Total as of Feb. 28, 1986	8,378,017	8,378,017	
Total during month of Mar. 1986	1,722,548	1,722,548	

CAB Form 470-A
(2-81)

PAYMENTS TO AIR CARRIERS
419 Subsidy
Summary of Obligations and Disbursements
Covering Operations
Fiscal Year 1985

HOLD-IN

As of March 31, 1986

Carriers	Obligations	Disbursements	Unliquidated
Air Kentucky	385,014	385,014	
Air Midwest	231,713	231,713	
Air Midwest Skyways	425,802	425,802	
Britt Airways	8,878	8,878	
Horizon	166,804	166,804	
Metro	195,153	195,153	
Pioneer	582,524	582,524	
Scheduled Skyways	70,921	70,921	
Total as of Mar. 31, 1986	2,066,809	2,066,809	-0-
Total as of Feb. 28, 1986	2,066,809	2,066,809	-0-
Total during month of Mar. 1986	-0-	-0-	-0-

CAB Form 470-A
(2-81)

PAYMENTS TO AIR CARRIERS
419 Subsidy
Summary of Obligations and Disbursements
Covering Operations
Fiscal Year 1986

HOLD-IN

As of March 31, 1986

Carriers	Obligations	Disbursements	Unliquidated
Air Midwest	194,773	194,773	
Britt Airways	64,462	64,462	
Pioneer	132,361	132,361	
Total as of Mar. 31, 1986	391,596	391,596	
Total as of Feb. 28, 1986	391,596	391,596	-0-
Total during month of Mar. 1986	-0-	-0-	-0-

WCF SUPPORT SERVICES

Mr. **Lehman**. On page 46 please explain the 31 percent increase in the Working Capital Fund "support services activities" expenses—from $11.954 million to $15.678 million.

[The information follows:]

The support services activity includes communications services for DOT headquarters. For FY 1986, $2.8 million and for FY 1987 $5.5 million is included for funding for DOT headquarters. With installation of the new telephone in July, local and long distance service will be billed to the WCF which will in turn bill the Operating Administrations and the Office of the Secretary based on data collected by the computerized switch. Payments are currently made by the Operating Administrations and OST directly to AT&T, GSA, etc. The new telephone switch for DOT headquarters is expected to be operational in July and result in a considerable savings to the Department.

SLUC charges from GSA for space rented will require an increase of $583 thousand.

The remaining increase of $441 thousand is primarily required for anticipated price increases. This activity includes such services as mail, guard contract, and labor services for which contract rates are anticipated to increase.

WCF EQUIPMENT PURCHASES

Mr. **Lehman**. Last year you budgeted $6.715 million for the purchase of WCF equipment in fiscal year 1985. However, according to page 46, your actual expenditure was $1.08 million. Why were actual equipment purchases so much lower than estimated?

[The information follows:]

The expenditure shown on page 46 should be $3.208 million. The $1.2 million requested for disk upgrade has been deferred pending further consideration of alternative disk management plans and strategies. Requirements for the Transportation Office Network System did not develop as was anticipated resulting in expenditures being $1.2 million lower than budgeted. Additionally, the purchase price of Front End Processors and the AMDAHL replacement was accomplished at a lower cost than originally anticipated, reducing requirements by $.8 million.

Mr. **Lehman**. Please update for the record the breakdown of WCF fiscal year 1985 and 1986 equipment purchases similar to what appears on pages 928 and 929 of last year's hearing record. Please also add information for fiscal year 1987.

[The information follows:]

WCF Planned Equipment Purchases

FY 1986:	
VHF/VAF Portable radios	4,000
Forklift	13,000
Box Trucks (Canvas)	1,500
Crosscut document shredder	5,000
Photo ID system to support new ID media	6,000
Mail sorting modules	5,000
Bunns tying machine	3,500
Mail carts	1,000
Copy machines	160,000
Copy camera	5,000
Typewriters	9,000
Calculators	4,000
Labeling System	35,000
Miscellaneous	6,000
Amdahl Update to 5868	1,404,000
TONS	618,000
Disk Upgrade	1,000,000
ADP Security Improvements	28,000
Modem Purchases for Mainframe	12,000

Microcomputer Systems	65,000
Total	3,385,000
FY 1987:	
Mail sorting modules	$5,200
Portable IDS alarm system	1,000
Portable VHF radio	4,000
Typewriters	1,400
Stu II Equipment	12,000
Slide projectors	1,000
Video tape players	1,000
Conference room furniture	5,000
Miscellaneous	4,400
Amdahl Update to 5868	270,000
TONS	304,000
Disk Upgrade	1,000,000
Uninterruptible Power Source	1,000,000
Data Network Management Systems	125,000
ADP Security Improvements	30,000
Topeka Node Upgrade	180,000
Modem Purchases for Mainframe	100,000
Terminal Replacement	25,000
Microcomputer Systems	75,000
Total	3,144,000

WCF OTHER COSTS

Mr. **LEHMAN**. On page 49 why do your working capital fund "communications, utilities, and miscellaneous charges" more than double over two years—from $4.569 million in fiscal year 1985 to $10.117 million in fiscal year 1987?

[The information follows:]

Charges for telephone services for the DOT headquarters are included for the first time in FY 1986. A new telephone switch will be installed in July 1986, at which time charges for local and long distance telephone service will be billed through the WCF. These charges are currently paid to the local and long distance telephone companies and GSA for FTS service. The new telephone switch will provide long term savings to the Department resulting in reduced requirements for telephone moves and changes, improved control of long distance usage, and avoidance of certain future tariff increases.

Mr. **LEHMAN**. For the record, please provide a breakdown of Working Capital Fund "communications, utilities and miscellaneous charges" for fiscal years 1985, 1986 and 1987.

[The information follows:]

WORKING CAPITAL FUND COMMUNICATIONS, UTILITIES AND MISCELLANEOUS CHARGES

[In thousands of dollars]

	1985	1986	1987
Rental of Equipment	4,035	3,657	3,916
Telephone Services	337	3,241	5,901
Utilities	197	300	300
Total	4,569	7,198	10,117

WCF PRINTING AND REPRODUCTION

Mr. **LEHMAN**. Also on page 49, why do your Working Capital Fund printing and reproduction costs increase by 81 percent over two years—from $37,000 in fiscal year 1985 to $67,000 in fiscal year 1987?

[The information follows:]

This line item represents printing only for WCF activities—a very small portion of our printing requirements. Much of the printing required by the WCF activities is to restock publications and forms which have reached their replenishment levels. The need to replenish the various forms used by the Department varies from year-to-year. This represents the best estimate of requirements for reordering of these publications and forms.

WCF STAFFING

Mr. **Lehman**. Please update for the record the WCF staffing data appearing on page 929 of last year's hearing record and add a 1987 column. You may drop the 1981 column.

[The information follows:]

WCF STAFFING

	1982	1983	1984	1985	1986	1987
Authorized Positions	420	464	332	346	315	309
FTE Ceiling	400	443	331	330	309	298
End-of-Year On-Board	344	352	271	299	301	300

WCF REIMBURSEMENTS

Mr. **Lehman**. Please also provide for the record breakdowns of WCF reimbursements by mode for fiscal years 1986 and 1987 similar to what appears on pages 931 and 932 of last year's hearing record.

[The information follows:]

FY 1986
DEPARTMENT OF TRANSPORTATION
WORKING CAPITAL FUND COST DISTRIBUTION BY CUSTOMER
($ IN 000'S)

	OST		USCG	FAA	FHWA	FRA	NHTSA	UMTA	SLS	RSPA	MARAD	OIG	OTHER	TOTAL
	S&E	R&D												
PUBLISHING AND GRAPHICS														
PRINTING	1093	17	6291	3143	771	215	720	179	7	25	234	69	35	12798
PHOTO	76	0	48	143	133	24	61	11	6	6	9	5	9	529
GRAPHICS	179	0	48	368	336	25	147	20	4	23	36	13	69	1266
TRANS. COMPUTER ACTIVITIES														
TRANS. COMPUTER	2872	0	6409	545	5176	127	509	868	0	147	2339	58	5008	24057
TIME SHARING	113	3	592	7331	76	306	2065	531	1	23	43	315	1	11400
LIBRARY	285	47	322	648	270	129	167	94	11	59	309	45	53	2438
SUPPORT SVCS.														
PASS/IMPREST	3	0	16	23	7	1	2	1	0	1	2	1	1	58
CEIO	18	0	21	40	17	4	7	4	0	3	5	3	0	122
WAREHOUSE	73	0	62	108	48	10	91	11	0	13	13	4	21	454
TRANSPORTATION	790	0	84	17	1	13	6	13	0	15	10	2	25	977
PARKING MANAGEMENT	9	0	33	25	11	4	7	4	1	2	6	2	3	106
MAIL SERVICES	89	0	269	222	88	30	58	34	2	18	50	18	0	876
BUILDING MGMT.	714	0	1025	1051	858	268	463	295	10	157	452	146	84	5523
HEALTH AND FITNESS	42	0	16	18	52	20	28	16	1	8	22	3	0	227
SECURITY	532	0	870	698	369	173	274	198	29	135	206	61	126	3669
TOTAL	6886	67	16106	14379	9211	1348	4604	2280	72	635	3735	746	5435	64500

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING.

1028

FY 1987
DEPARTMENT OF TRANSPORTATION
WORKING CAPITAL FUND COST DISTRIBUTION BY CUSTOMER
(\$ IN 000'S)

	OST	USCG	FAA	FHWA	FRA	NHTSA	UMTA	SLS	RSPA	MARAD	OIG	OTHER	TOTAL BY CATEGORY
PUBLISHING AND GRAPHICS													
PRINTING	1036	5873	2934	720	200	673	168	6	23	215	65	33	11946
PHOTO	88	55	165	153	27	71	13	7	7	10	5	10	611
GRAPHICS	184	49	378	345	25	151	20	4	24	37	13	71	1301
TRANS. COMPUTER ACTIVITIES													
TRANS. COMPUTER	3159	7049	599	5693	139	560	955	0	161	2573	64	5009	25906
TIME SHARING	116	592	7331	76	306	2065	531	1	23	43	315	1	11400
LIBRARY	369	338	720	300	144	186	104	12	66	343	50	59	2709
SUPPORT SVCS.													
PASS/IMPREST	3	16	24	7	1	2	1	0	1	2	1	1	59
CEIO	18	21	41	17	4	7	4	0	3	5	3	0	124
WAREHOUSE	75	64	112	49	10	93	12	0	13	13	4	22	467
TRANSPORTATION	854	91	19	1	14	6	14	0	16	11	2	27	1056
PARKING MANAGEMENT	8	31	24	11	4	6	4	1	2	6	2	2	99
MAIL SERVICES	81	296	229	99	32	61	38	1	19	54	19	0	930
BUILDING MGMT.	987	1418	1453	1187	370	640	408	14	217	625	203	116	7638
HEALTH AND FITNESS	54	21	23	67	25	37	21	1	10	28	4	0	294
SECURITY	731	1197	959	507	237	376	272	40	186	283	84	173	5046
TOTAL	7763	17131	15010	9231	1541	4933	2565	88	772	4249	834	5525	69640

NOTE: TOTALS MAY NOT ADD DUE TO ROUNDING.

DEPARTMENTAL ADVISORY COMMITTEES

Mr. **Lehman**. Please also provide for the record a listing of all advisory committees currently established in the Department similar in detail to what appears on pages 934 and 935 of last year's hearing record.

[The information follows:]

DEPARTMENT OF TRANSPORTATION ADVISORY COMMITTEES

Admin.	Committee Name	FY 1985 Actual	FY 1986 Estimate	FY 1987 Estimate
FHWA	National Motor Carrier	$41,801	$55,322	$38,000
	Commercial Motor Vehicle Safety Regulatory Panel	7,235	120,000	120,000
	Subtotal	49,036	175,322	158,000
NHTSA	National Highway Safety	25,660	29,600	19,600
	National Driver Register	40,474	49,600	39,600
	Subtotal	66,134	79,200	59,200
UMTA	Section 15 Reporting System	13,149	47,900	3/
FAA	Air Traffic Procedures	8,800	8,900	9,100
	Radio Technical Commission for Aeronautics	249,700	255,000	85,000
	National Airspace Review	858,000	100,000 2/	300,000 2/
	Subtotal	1,116,500	363,900	394,100
CG	USCG Academy	6,000	8,500	9,000
	National Boating Safety	18,400	18,400	18,400
	Chemical Transportation	1/	1,000	1,000
	Houston/Galveston Navigation Safety	300	500	500
	Lower Mississippi River Waterway Safety	2,000	2,000	2,000
	New York Harbor Traffic Management	1/	1,000	1,000
	Rules of the Road	12,000	26,000	26,000
	Towing Safety	2,000	2,000	2,000
	Subtotal	40,700	59,400	59,900
MARAD	Merchant Marine Academy	4,000	4,000	4,000
SLSDC	SLSDC	5,000	6,000	6,000
RSPA	Technical Pipeline Safety Standards	13,953	9,500	9,500
	Technical Hazardous Liquid Pipeline Safety Standards	23,234	5,000	16,000
	National Hazardous Materials Transportation	35,000	20,000	40,000
	Subtotal	72,187	34,500	65,500
OST	Minority Business Resource Center	2,824	6,398	17,050
	Commercial Space Transportation	9,844	15,335	22,050
	Subtotal	12,668	21,733	39,100
	Grand Total	1,379,374	791,955	785,800

1/ Formed in FY 1985, but did not meet.

2/ The charter for this committee expired in April 1985. FAA has applied for renewal but approval has not been granted by OMB.

3/ Committee terminates 9/30/86

QUESTIONS SUBMITTED FOR THE RECORD BY MR. CONTE

Policy Office Accomplishments

QUESTION:

What has the Department's Policy Office accomplished during the past year in the following areas:

- deregulation of the transportation industry,
- transportation safety, and
- air travel security?

ANSWER:

On September 12, 1985, the Department introduced its three-part proposal to provide additional economic deregulation of surface transportation. These three bills were drafted by the Policy Office, in conjunction with the General Counsel's Office. This deregulation package would remove virtually all remaining economic regulation of the interstate trucking, freight forwarder, and domestic water carrier industries.

The Policy Office organized and heads an intra-departmental working group dealing with possible drug problems with transportation operators. An initial research effort funded by the Office and now nearing completion will assess the scope of illicit and licit drug use as a transportation safety problem, review information and research available on the subject, and permit the Department to focus future anti-drug activities.

The Office originally proposed as safety initiatives an increase in the civil penalty for aviation maintenance and inspection violations, and the installation of a "hot line" on which individuals could report such violations to FAA headquarters. Both have been successful. The hot line is in place and operating successfully. Legislation to increase civil penalties has been submitted to the Congress.

This office is concluding a year-long demonstration of a voluntary, confidential, and non-punitive incident reporting system for the maritime industry. This Marine Safety Reporting Program has already proven that such an approach will generate meaningful, high-quality reports, but the number involving human performance considerations--and the overall number of reports--fell short of our hopes. Due to budgetary and other constraints, continuation of this safety program in any form would require some private sector funding and initiative. Whether the concept will be picked up by the industry or not is unclear at this point, and subject to the outcome of informal discussions with industry representatives later this year.

The Policy Office has been the contact point in the Office of the Secretary for all matters dealing with the FAA Office of Civil Aviation Security. In that capacity, Policy has guided and monitored the developing program to assess the security of foreign airports, a program that began even before enactment of the International Security and Development Cooperation Act of 1985. Policy has been especially active in encouraging international cooperation to improve aviation security, working with the International Civil Aviation Organization in the adoption of more stringent aviation and airport security standards. Policy has been instrumental in having greatly strengthened security clauses added to the bilateral aviation agreements with many nations.

While the efforts have received less publicity, Policy has also been the focal point in the Office of the Secretary for coordinating efforts to improve maritime security. Through the Coast Guard, the Maritime Administration, the shipping lines, the various Port Authorities and numerous international contacts, Policy has worked to reduce the vulnerability of U.S. shipping and U.S. passengers on ships of all flags to acts of terrorism.

Policy Relationships With DOT Agencies

QUESTION:

How does the Department's Policy Office relate to the responsible operating agencies on issues such as safety, deregulation, environmental concerns, etc.; in developing reauthorization legislation, such as for highway and transit programs?

ANSWER:

The Policy Office has an oversight role with all the operating administrations with regard to safety matters. We review all significant rulemakings, checking both for the degree to which the particular rule or proposed rule supports the Secretary's safety policy, and for the accuracy and correctness of the regulatory analysis. We maintain a close relationship with our counterparts in the operating administrations so that we frequently work together in preparation of rulemaking documents. We also sit on the Secretary's Transportation System Acquisition Review Council (TSARC) which must concur on all major procurement actions. Finally, we serve as an information conduit back from the operating administrations to the Secretary, particularly in aviation safety and security matters.

On a continuing basis, Policy maintains oversight of implementation of NEPA by the administrations and elements of the Office of the Secretary. Environmental Impact Statements are reviewed, environmental procedures are monitored, and consultation is provided to the administrations in developing environmental documentation for controversial projects.

Policy works with the operating administrations, principally the Coast Guard, Federal Highway Administration, and Federal Aviation Administration, to assure that their regulations and operating procedures carry out the Coastal Zone Management Act consistency requirement and the Coastal Barriers Act prohibition of Federal funding of facilities contributing to development in certain areas. Policy reviews evidence of compliance with these requirements in environmental impact statements of projects in coastal areas.

In coordination with the Environmental Protection Agency, Policy works with the operating administrations to assure that Clean Air Act requirements on conformity, priority, and sanctions are carried out in regulations and operating procedures. Policy reviews evidence of compliance with these requirements in environmental impact statements, principally for projects in metropolitan areas having difficulty meeting national ambient air quality standards.

Policy works closely with the Coast Guard, to formulate an Administration position supporting a domestic comprehensive oil spill liability and compensation system which would include the adoption of the International Convention on Civil Liability for Oil Pollution Damage, 1969 (CLC), and the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1971 (FUND) of the International Maritime Organization (IMO).

Policy has provided guidance to the Coast Guard effort in promulgating Congressionally-mandated regulations on IMO requirements for tankers and oil reception facilities.

Policy maintains oversight and coordination with the Department's operating administrations on compliance with the historic preservation regulations of the National Historic Preservation Act of 1966, section 4(f) of the DOT Act and a number of National Park Service cultural resources program regulations. Policy represents the Secretary and the operating administrations on the Advisory Council on Historic Preservation in development of regulations to protect historic properties.

Policy maintains oversight, through the Federal Highway Administration, over State programs to control outdoor advertising along federally-funded interstate and primary highways. We have coordinated with the FHWA on review and proposed revision of existing legislation to improve the program and strengthen its application by the States.

Policy works closely with the Federal Aviation Administration (FAA) in developing the overall framework for a policy to incorporate environmental concerns in FAA regulations and programs.

In the area of human environment, Policy is the focal permit for coordination and enhancement of the operating administrations' activities to conform to requirements of Section 504 of the Rehabilitation Act, requiring non-discrimination on the basis of handicap in services provided by recipients of federal assistance. The Policy Office provide major assistance and guidance in development of revised Section 504 regulations for mass transit and light rail operators, and is developing background for a proposed rule that would ensure uniform treatment of handicapped passengers by the air carriers.

Staff in the Policy Office worked closely throughout the year with staff from the Federal Highway Administration and the Urban Mass Transportation Administration in the development of policy positions and various implementing actions, including the development of regulations. During the actual development of reauthorization legislation, Policy staff works closely not only with staff from the respective modal administrations, but also with other OST staff, including representatives of the Budget, Counsel, and Intergovernmental Offices. Through a joint development and review process, staff from all of these Offices work on reauthorization legislation. It is the responsibility of the Policy staff to assure that any such legislation represents the prevailing policy positions. In addition, the Policy staff is responsible for assuring that Departmental speeches, correspondence, Congressional testimony and Q's and A's, and other such relevant material reflect the legislative policy and objectives.

Policy Office Initiatives

QUESTION:

What policy changes, guidance or initiatives have been developed by the Department's Policy Office recently? What will be on the agenda for next year?

ANSWER:

The Policy Office took the lead in the adoption of an aggressive Departmental stance toward improving safety. A safety task force, headed by Policy, made recommendations for safety initiatives in all modes, many of which have been implemented. More recently, the Policy safety position has been expressed in the strengthening of safety regulations, particularly those regulations involving motor carriers that are being reissued as required by the Motor Carrier Safety Act of 1984. The Office took the lead in encouraging greater use of safety belts and has provided strong support to the Secretary's Safety Review Task Force. Internally, the Policy Office has monitored the responses of the operating administrations to NTSB recommendations and pursued a policy of encouraging the close-out of long-standing open recommendations.

In addition, in conjunction with the General Counsel's Office, the Policy Office has recently completed drafting legislation that would sunset the Interstate Commerce commission as an independent regulatory agency. The proposal, which builds upon the reforms of the three deregulation proposals we sent to the congress last September, would remove federal economic regulation from all areas of surface transportation _except_ rail freight transportation. Existing federal rail regulation would be maintained. We will be seeking enactment of this legislation this year, and next year if it is not enacted in this session.

The Policy Office and the Federal Aviation Administration have been engaged in a number of activities relating to the environmental effects of aviation activity. Included have been (1) the development of an exemption policy for granting exemptions from the aircraft noise compliance rule, (2) the formulation of a capacity and airport access policy, (3) the delineation of federal versus local government roles in abating aircraft noise, and (4) incentives to stimulate the introduction of quiet aircraft into the U.S. fleet.

The Policy Office had an active role in achieving revisions to the Advisory Council on Historic Preservation rule protecting historic properties that were acceptable to the Office of Management and Budget, and have been published in the Federal Register for public comment.

Maritime Policy

QUESTION:

What role does the Policy Office play in international maritime affairs, particularly with respect to bilateral and multilateral negotiations, regulations and legislations, and cargo and shipowner liability?

ANSWER:

The Policy Office is responsible for developing and coordinating the Department's position on international maritime issues. As chair of the Interagency Maritime Policy Group, the Policy Office integrates the views of various agencies and serves as a focal point for the interests of outside industry groups. In conjunction with the Maritime Administration, Policy puts forward the Department's position on international maritime negotiations and frequently serves as head of the U.S. delegation at bilateral and multilateral negotiations. Policy staff provides analytic support for negotiations. Policy Office also provides oversight of DOT's position on legislative and regulatory proposals affecting international maritime affairs. We work closely with General Counsel in the development and articulation of DOT policies on cargo and shipowner liability, including the development of legislation and treaty instruments relating to the Visby and Hamburg Rules.

Facilitation and Enforcement

QUESTION:

One of the Department's major responsibilities is to facilitate international transportation and trade. At the same time we find that international transportation has increasingly become the target of terrorist activities and is being used for illicit drug trafficking. Explain the Department's activities in the areas of trade facilitation, transportation security and prevention of drug trafficking and how the sometimes conflicting objectives in these areas are balanced.

ANSWER:

The Department established and chairs the National Transportation Facilitation Committee (TFC). This is a coordinating body representing some 30 government agencies and transportation industry organizations (air, maritime, truck, rail and supporting sectors) involved with international transportation. The TFC is charged with examining, coordinating, and encouraging international cargo and passenger facilitation improvements while maintaining overall national goals relating to inspection and enforcement.

This group has encouraged and supported improvements in inspection procedures which speed processing while increasing enforcement effectiveness. Such programs include the use of automated systems, profiling, separating low and high risk passengers and cargo, and other improvements being developed by the Federal inspection agencies. In particular, the TFC has supported the expansion of preinspection and preclearance programs to additional foreign airports. We believe the inspection of U.S.-bound passengers at embarkation airports outside the United States enhances both facilitation and enforcement.

The Department is extremely active in devising and implementing improved security measures in the maritime and aviation industries.

The FAA works closely with foreign authorities, the International Civil Aviation Organization (ICAO), and international aviation associations such as IATA to enhance security and develop new means of detecting dangerous weapons which could be used in an act of terrorism. The FAA is conducting regular assessments of the security programs at foreign airports served by U.S. carriers and other airports which are the final point of departure for service to the United States. These assessments -- required under section 1115 of the Federal Aviation Act, as amended -- have shown a high level of security consciousness at the airports. The increased use of air marshals on selected foreign flights, improved screening of passengers and baggage, and the development of more reliable profiling techniques are other means employed by the FAA to increase airline security.

The Department has been assigned several important tasks in the area of international maritime terrorism. Following the attack on the Achille Lauro, the U.S. Coast Guard worked closely with the Department of State to develop voluntary maritime security measures which could be implemented worldwide. These measures were introduced into the International Maritime Organization (IMO) in February and were adopted for consideration by all 127 member states almost without change. We expect these measures to be approved by the IMO in September.

In addition to the U.S.-sponsored IMO initiative, an Interagency Working Group on Maritime Security, chaired by DOT, was established to assess worldwide port and ship security. The group conducted a preliminary assessment of security measures at U.S. and foreign ports in December, and the assessment continues.

We note that under H.R. 4151, the Omnibus Diplomatic Security and Anti-Terrorism Act of 1986, which has passed the House, many of the activities now ongoing would become statutory responsibilities. Under Title IX of H.R. 4151 (the International Maritime and Port Security Act), DOT would assess the threat of terrorist action at U.S. ports and report to the Congress by the end of the year. Also, DOT would propose legislation mandating security measures at U.S. ports if IMO members have not accepted the voluntary IMO measures by the end of 1986. The Ports and Waterways Safety Act would be amended to provide specific authority to assess security at domestic ports and to provide anti-terrorism prevention and response. In short, this legislation would buttress and increase the Department's activities in the maritime security area.

The Department of Transportation is one of the Federal agencies involved in the battle against illegal drugs trafficking into the United States. The Department's main efforts are coordinated through the DOT Drug Law Enforcement Task Force, chaired by Secretary Dole. The Task Force also supports the Department's participation in the national Drug Enforcement Policy Board.

A review of the various Federal drug interdiction programs in which the Department participates suggests that our involvement falls into two categories: broad policy and program coordination, and direct interdiction and operations assistance. Briefly, the Department's current anti-drug involvement includes:

1) Active and direct drug interdiction by the U.S. Coast Guard. The Coast Guard gives this program a high priority and has committed substantial personnel and capital resources to it. They coordinate closely with other Federal agencies involved in the Administration's drug interdiction effort.

2) Operational support by the Federal Aviation Administration through the provision of aircraft tracking assistance on planes coming into the United States from the Caribbean and Central America. The FAA primarily deals with general aviation aircraft rather than those operated by schedule and non-scheduled air carriers. Aircraft tracking information is provided by the FAA to the enforcement agencies responsible for the air smuggling interdiction program.

The Department's ultimate weapon against drug smuggling by air is its ability to withdraw operating authority from both foreign and domestic carriers. Public Law 99-88, signed August 15, 1985, requires the Department, in consultation with appropriate law enforcement and other agencies, to reexamine immediately the fitness of any U.S. or foreign carrier that has (1) "violated laws and regulations of the United States pertaining to the illegal importation of controlled substances" or (2) "failed to adopt available measures to prevent the illegal importation of controlled substances" into the United States. Where appropriate, the Department is directed to take action against the carrier's operating authority. The Department is complying fully with the provisions of this statute. It has conducted drug-related fitness reviews concerning Eastern Airlines and Avianca Airlines. The Eastern review is ongoing; the Avianca review has been discontinued at the request of U.S. Customs.

The Department recognizes that its goal of facilitating the free flow of passengers and goods in worldwide commerce can conflict at times with its goals of halting illegal drug trafficking and combatting acts of terrorism aboard commercial aircraft and passenger vessels. But we believe that a reasonable balance has been achieved between facilitation and enforcement objectives by using improved technology to increase security measures at airports and seaports without slowing the movement of people or goods. Our efforts will continue along these lines.

Trucking Deregulation

QUESTION:

It is my understanding this Administration is very interested in pursuing further deregulation of the trucking industry and has sent legislation to the Congress that would accomplish this. What work has the Policy Office done to date to support the Administration's and the Department's interest in achieving further trucking deregulation? To what extent have the ICC and FHWA been involved in this process?

ANSWER:

The Policy Office worked closely with staff from the Counsel's Office in developing trucking deregulation legislation which would remove all the remaining economic regulation of trucking. This legislation has been introduced in the House and Senate (H.R. 3929 and S. 1711).

The Policy Office prepared two booklets on trucking deregulation issues and concerns, entitled "Trucking Deregulation in 1986." The longer book includes an introduction outlining the major objectives of additional trucking deregulation, a short piece dealing with the results of the 1980 reforms and the need for further deregulation legislation, a concise treatment of some forty issues related to trucking deregulation, a glossary of terms and a short annotated bibliography of our supporting research. It is for distribution to Members of Congress and their staffs, as well as representatives of major interest and industry groups. A shorter version of this book, in a question and answer format, is being more widely distributed.

We have consulted with the ICC and FHWA whenever issues of mutual concern have been addressed. Such issues include coordination of our respective research efforts with the ICC and extensive discussions of truck safety regulation and research with FHWA.

Highway and Transit Reauthorization

QUESTION:

The Administration has proposed reauthorization of the highway and transit programs in the Surface Transportation Reauthorization Act of 1986. This proposed legislation recommends consolidating a number of major programs as well as creating a block grant program for highway and transit projects. What work did the Policy Office do in the development of these proposals?

ANSWER:

The Policy staff worked closely with staff from FHWA, the Budget Office and the Counsel's Office in developing and preparing the Administration's four-year surface transportation reauthorization bill, to assure that it fully reflected the Administration's policy positions. The Policy staff prepared the Departmental fact sheet on the Administration's bill that was distributed to Congress, their staffs, and major interest groups.

Policy staff also is involved in preparing or reviewing all Departmental material related to this legislation. This includes reviewing or preparing speeches and testimony, Q's & A's, correspondence, briefing materials and speeches on the subject.

Airport and Airways Program Reauthorization Legislation

QUESTION:

Authorizations for the Airport and Airways Program expire in FY 1987. What is the role of the Policy Office in developing the Department's reauthorizing legislative proposal, as opposed to the role of FAA?

ANSWER:

The Policy Office has been working closely with FAA for the past several months and presently is working with other relevant OST offices to identify the major issues and analyze the options. Given the stringent budget situation, we are carefully assessing the implications of alternative funding levels on program objectives and effectiveness. In this analysis, the Policy Office provides a more objective assessment of the issues and ensures consistency in the application of Administration policy across the modes.

American Pacific Island Study

QUESTION:

What activities are you pursuing concerning the special transportation problems of the American Pacific Islands?

ANSWER:

Working with the Pacific Basin Development Council (PBDC) and the Department of the Interior (DOI), we have developed a study plan for examining the ocean transportation needs in the Pacific Basin region. Staff from the Policy Office as well as MARAD, DOI, and PBDC are now making site visits to discuss the ocean transportation problems with local officials. We anticipate completing the study directed by the Appropriations Committee within the time prescribed.

Federal Coal Export Commission

QUESTION:

What is the Department's role in the Federal Coal Export Commission?

ANSWER:

The Department is one of the ten federal agency members of the Coal Export Commission, which was mandated by the International Security and Development Cooperation Act of 1985. The Assistant Secretary for Policy and International Affairs is representing the Department of Transportation on the Commission. In addition to the ten federal members, there are twenty private sector members.

The Assistant Secretary for Policy and International Affairs attended the first meeting of the Commission on March 17 of this year. At this meeting, five Committees were established. The first, on the State-of-the-Industry, is to develop a report outlining industry problems by the end of May. At that time, the four other Committees will begin work and will develop reports to the Commission by September 1.

The Department of Transportation is Vice Chair of the Regulatory Issues Committee, and is a member of the Export Finance Committee and the Employment, Productivity and Adjustment Committee.

DOT Policy Office staff have reviewed and commented on the report outline of the State-of-the-Industry Committee and are conducting preliminary work on transportation issues which are expected to be of concern to the Commission.

The Office of the Assistant Secretary for Policy and International Affairs has notified the Modal Administrations of the planned work of the Committees, and the Policy Office will be coordinating the Department's staff work for the Committees and the overall Commission. The final report of the Commission is scheduled for completion in November of this year.

Insurance

QUESTION:

At hearings held several months back on the growing casualty insurance problems facing many segments of our transportation industry, representatives from the Department indicated that your Office was helping to find solutions. Could you elaborate further on that?

ANSWER:

At the time of those hearings, the Policy Office was instructed, by the Secretary, to organize and chair a Departmental task force to examine casualty insurance problems and what impact they were having upon transportation carriers. The task force was also to report to the Secretary as to whether or not there appeared to be any actions which the Department should be taking to solve any problems we uncovered. Using information gathered both from within the Department and through meetings and correspondence with representatives from the insurance industry, transportation carriers and shippers, and state government, Policy staff prepared an internal report which has just recently been sent to Secretary Dole.

In addition, Policy staff is providing oversight and policy coordination with the operating administrations, especially the Federal Highway Administration, as they deal with day-to-day insurance-related issues facing motor carriers, including the May Trucking Co. petition on self-insurance. We will continue to perform this role and to ensure that individual problems and issues are addressed in a consistent way throughout the Department, and in a way that is compatible with the Administration's overall policy.

Truck Size and Weight

QUESTION:

Given the Policy Office's authorship of a truck size and weight report to Congress, could you discuss what role, if any, your Office is taking regarding the efforts by the trucking industry to increase the legal weight and size of trucks on our highways. In particular, have you participated in developing a policy position on the so-called "Pinwheel" proposal? What future role do you expect your Office will take?

ANSWER:

We have particiapted with FHWA in conducting the study of the feasibility of a Nationwide Network for Longer Combination Vehicles (LCV's) as directed in Sections 138 and 415 of the Surface Transportation Assistance Act of 1982. We are continuing to coordinate with FHWA in the study of LCV operations in western states, which was called for in the Senate Report on the 1986 Department of Transportation Appropriations Bill. In the former study, we looked closely at the costs and benefits of LCV operations on a possible national network and impacts of such operations on highway pavements and bridges, on railroad traffic, and on highway safety.

The latter study is, in fact, an examination of the so-called "Pinwheel" proposal under consideration in the current motor carrier deregulation legislation. The proposal would allow states in the West to issue permits allowing the operation of LCV's carrying much heavier loads than presently allowed.

We will continue to monitor and evaluate ongoing research related to LCV operations and coordinate with FHWA in developing policy positions that are consistent with the Department's commitment to setting user charges that equitably allocate highway costs and actions which maintain the operating safety of our nation's highways. FHWA has primary responsibility for preparation of this report. The Policy Office, however, will continue to provide policy review and oversight, making sure that the technical analysis supports the findings and conclusions, and that they are also consistent with Administration goals. Further, we are responsible for ensuring that intermodal issues and analysis are properly addressed and presented in the report and that other modal interests are considered in the report's findings and recommendations.

Water Projects Legislation

QUESTION:

Has your staff been involved in development of the Administration's water projects legislation? If so, could you discuss the nature of that involvement.

ANSWER:

The Policy Office has a long history of involvement in the development of the Administration's position on water project legislation. This involvement stems from the fact that navigation improvements and navigation cost recovery proposals usually affect more than one mode. Recently, we performed studies on the cumulative impact of cost recovery legislation on waterborne exports. We have also prepared a report for Congress on the impact of eliminating the Saint Lawrence Seaway tolls and replacing them with an ad valorem tax. Additionally, the Policy Office has actively participated with the Departments of the Army and the Treasury in developing the Administration's position on H.R. 6 and S. 1567. Currently, we are preparing a Congressionally mandated study to determine how the modernization options listed in the U.S. Army Corps of Engineers reconnaissance report on U.S. Saint Lawrence Seaway locks would affect Great Lakes shipping patterns and cargo volume.

Airline Industry Reports

QUESTION:

I realize that your Office publishes various reports on the airline industry using airline data. Would you please tell us the nature of these reports, and how they influence policy development at the Department?

ANSWER:

Within the Office of the Assistant Secretary for Policy and International Affairs, the Office of Economics prepares reports on many aspects of the airline industry. The reports fall into two basic categories: special and recurring reports. Special reports are in-depth studies which address significant aviation issues with the goal of recommending specific policy actions or options. One example of such a report is the recently published study, Interline Practices in the Airline Industry, which examines airline interline practices with an emphasis upon their competitive and consumer-related implications. Another example is the soon-to-be completed report, Study of the Regional Airline Industry: The Impact of Marketing Alliances. In this report, the recent growth of marketing agreements between larger airlines and regional carriers is evaluated, especially with regard to its possible anticompetitive implications.

Recurring reports include analysis of the financial condition and performance of individual airlines, as well as the industry; airline employment publications and studies on the cargo segment of the industry; and reports on aircraft cost and performance factors for large and small aircraft, as well as analyses of overall cost trends and cost components (such as fuel and labor).

Recurring reports influence Department policy by providing readily available background information for decision makers. For example, our ongoing financial analysis reports provide a basis for developing analyses on airlines experiencing a particular problem (such as a strike). They also provide a basis for developing financial criteria and standards, which are an important component in air carrier fitness analyses. Aircraft cost and performance reports are used as benchmarks in evaluating operating plans of airline applicants. Employment publications respond to the requirements of the Employee Protection Program (as mandated under Section 43 of the Airline Deregulation Act of 1978). Reports on market share and studies on the growth of incumbent airlines and entry of new airlines at large hub airports provide insight into analyzing market concentration and possible anticompetitive structure and behavior.

In addition to in-depth studies, the Office of Economics responds to specific requests from other Departmental offices and government organizations. Recently, for example, a historical series of airline operational indices and airline maintenance expenditure data were compiled and sent to the House and Senate Aviation Subcommittees as background information on the topics of airline maintenance and safety.

Financial and Economic Analysis

QUESTION:

What is the Department's role in monitoring the financial and economic condition of the transportation industries, and how does this information affect decision-making at the Department?

ANSWER:

The Department routinely monitors and assesses the economic condition and financial status of the transportation industries and specific transportation companies. These efforts help Departmental decision makers in several important ways: in developing Department policy positions on proposed legislation (such as tax or deregulation legislation); in proceedings before the independent regulatory agencies; in Departmental regulatory proceedings (such as airline merger and acquisition cases or in international route award cases); and in proceedings dealing with essential air services or maritime subsidies.

Such analyses are also conducted to evaluate the impact of proposed DOT regulations and to ensure that such regulations are acceptable from a cost/benefit standpoint.

Finally, the Department is required to provide expertise on a broad range of economic issues in conjunction with its membership on the Economic Policy Council. Such analyses often require Policy staff to prepare status reports on the economic and financial condition of the various transportation industries.

The Nature of Analytical Work and Personnel Involved in Airline Merger/Acquisition Cases

QUESTION:

The Department has had to rule on several airline merger/acquisition cases in the past year, and several cases are currently pending. Can you explain the nature of the analytical work that goes into reaching a decision in a merger/acquisition proceeding? What personnel are involved in that work?

ANSWER:

The Department of Transportation evaluates merger and acquisition cases under the standards established in Section 408 of the Federal Aviation Act of 1958. Section 408 establishes two tests for approval of a merger or an acquisition. First, the Department must find that the acquisition will not substantially reduce competition in any market. (If we cannot make this finding, we can only approve the acquisition if we find that its anticompetitive effects are outweighed by its probable effect in meeting significant transportation conveniences and needs that could not be attained in a less anticompetitive manner.) Second, the Department must find that the acquisition is not inconsistent with the public interest.

Merger and acquisition cases are the responsibility of the Office of the Assistant Secretary for Policy and International Affairs, acting in cooperation with the Office of the General Counsel. The Office of the Assistant General Counsel for Litigation in conjunction with Policy staff (drawn principally from the Office of Economics and the Office of Aviation Operations) review all merger and acquisition applications for initial completeness. In addition, Policy staff are involved in the analytical work that goes into reaching a decision on the merits of the merger/acquisition. (In transactions involving international routes, the Office of the Assistant General Counsel for International Law and the Office of International Aviation Relations are also involved.)

The Department's competitive analysis assesses how vigorous competition is in each relevant market, as well as how easy it is for other airlines to enter those markets, or for established firms to expand their service should the merging carriers attempt to raise fares or to reduce service. This type of analysis requires in-depth understanding of airline industry operations and economics; it is also quite time-consuming, requiring the allocation of several senior staff analysts in the Policy Office for several weeks for each major merger/acquisition proceeding.

Alaska Crude Oil Export Study

QUESTION:

Would you please explain the nature of your Department's involvement in the interagency study currently underway on the effect of removing the prohibition on Alaska North Slope oil exports?

ANSWER:

Section 126 of the Export Administration Amendments Act of 1985 requires the President to prepare a report to the Congress on the impact of different levels of exports on various sectors of the economy. The Department of Commerce is coordinating this study within the Administration.

The Assistant Secretary for Policy and International Affairs (or his representative) represents the Department in meetings of the interagency working group that is preparing this study. With the assistance of staff from the Maritime Administration, Policy Office staff are compiling data and preparing analyses for inclusion in the report. Specifically, the Department is responsible for analyzing the transportation aspects of moving Alaska North Slope oil from Valdez, Alaska, to the continental United States and determining the impact of allowing the exportation of various levels of Alaska North Slope oil on the maritime sector. Policy Office staff have also been working with staff from other executive branch agencies on various aspects of the study.

Economic Policy Council Meetings

QUESTION:

Can you please provide us with information about the Department's involvement in Economic Policy Council meetings and what type of staff work is involved in preparing for such meetings? Is that work staffed by the Department's Policy Office, by the various modal policy offices, or a combination?

ANSWER:

Chaired by the Secretary of the Treasury, the Economic Policy Council (EPC) formulates policy and makes recommendations to the President on important economic issues. The EPC has an extremely broad mandate, and the members of the Council (Cabinet-level officials) are expected to participate actively in the policy process.

Staff work for the EPC involves two separate exercises: the preparation of staff papers, which are presented to the EPC for review and discussion; and the preparation of briefing materials for the Secretary/Deputy Secretary, which critique or expand upon the papers prepared by the staff of other executive branch agencies. Policy staff prepare both types of analyses, often under very short time deadlines (less than one day). Because of their policy significance, these analyses require the direct participation of senior Policy staff.

These analyses are often several pages in length and can cover an almost endless range of issues. To the extent that they have a direct interest in the issue under discussion, policy staff from the relevant modal administration are asked to review and comment upon EPC papers prepared for the Secretary/Deputy Secretary, although the Policy Office is responsible for preparing these analyses.

Transfer of CAB Staff and Functions

QUESTION:

Many of the personnel and their associated functions transferred from the CAB are now in the Office of the Secretary. How have these personnel and functions been assimilated; what if any savings have been realized in the change-over to DOT; has the workload increased or diminished or otherwise been altered; and have there been any changes in the number of personnel required to perform the assigned tasks?

ANSWER:

On January 1, 1985, a total of 307 employees transferred from CAB to DOT to administer aviation economic regulatory functions. All but 46 of the employees were transferred to the Office of the Secretary (OST). The employees and the associated aviation functions were distributed as follows:

Office of Policy and International Affairs (in OST): 86 employees and 5 major functions: economic fitness and airline licensing; airline mergers, agreements, and other antitrust matters; international routes, tariffs, and negotiations; the employee protection program; and review and oversight of the Essential Air Service program.

Office of the General Counsel (in OST): 61 employees and the responsibility for providing legal support for all functions transferred from CAB, including enforcement, rulemaking, documentary services, public counsel, and legal advice.

Office of Essential Air Service (new unit in OST): 40 employees and the responsibility for administering the Essential Air Service program.

Office of Governmental Affairs (in OST): 21 employees to administer the consumer protection program.

Research and Special Programs Administration: 34 employees to oversee airline data collection.

Office of the Inspector General: 9 employees to conduct audits (primarily in support of the Essential Air Service subsidy program).

Federal Aviation Administration: 3 employees to administer the War Air Service Program and DOT payroll services.

Offices of Administration, Budget and Programs, and Public Affairs (in OST): 53 employees to proved administrative, budget and public affairs support.

One functional change has been made since CAB sunset. The responsibility for overseeing and promulgating consumer protection regulations has been transferred from the Office Governmental Affairs to the Office of Policy and International Affairs. There was no transfer of staff associated with this change and the Office of Governmental Affairs retains the responsibility for providing consumer assistance on a day-to-day basis.

We believe that CAB functions and staff have been successfully integrated into the Department and that we have improved the government's ability to handle aviation economic programs and issues. Employees that were utilized at the Board in narrow work areas are now being employed in other areas of the Department's work. Because of the degree of integration, it is not possible to identify savings or reductions in personnel associated with the transferred CAB functions. However, two things should be noted in regard to the question of savings. First, the workload has increased since CAB sunset. Both routine items, such as tariff filings, and major issues, such as airline mergers and acquisitions, have increased. Second, despite the increase in workload, we have had steady attrition among the staff that transferred from CAB and we have not filled their positions as they were vacated. Instead, we have asked DOT staff, professionals and secretaries alike, to pick up much of the workload of those staff who left the Department over the past 17 months.

EFFECT OF AIRLINE DEREGULATION ON FOREIGN GOVERNMENTS

QUESTION:

Domestic airline deregulation and the establishment of pro-competitive objections as a matter of public policy as has had an impact on our dealings with foreign governments. What problems have materialized as a result of our attempt to "export" our pro-competitives?

ANSWER:

U.S. airline deregulation and the implementation of our pro-competitive aviation policies have had a profound effect on our dealings with foreign governments. Immediate evidence of this effect can be found in U.S. aviation negotiating activity which has more than doubled since deregulation. Inasmuch as we estimate that for every issue that is handled through direct negotiations, approximately four issues are handled indirectly (i.e., through U.S. Embassies abroad acting under instructions we coordinate with the Department of State), it is very apparent that the workload in this area has mushroomed.

There are many reasons for this increased activity. U.S. airlines authorized to operate internationally have more than quadrupled in number. The number of cities served both in the U.S. and abroad has greatly increased. Persuading reluctant foreign governments to access greater competition is often a difficult time-consuming negotiating process. Even mor importantly, however, protecting and enhancing the operating rights we have negotiated has become a major undertaking. Too often we find regulations and practices applied abroad which denies U.S. airlines a fair and equal opportunity to compete against the flag carrier of the other country. Resolution of these so-called "doing business" problems experienced by our airlines abroad, which have grown in number and complexity, is a priority objective of this Department.

INTERNATIONAL MAIL RATES

QUESTION:

Since the transfer to the DOT at the end of 1984 of the statutory authority to set international and intra-Alaska mail rates and to review certain contractual agreements between the U.S. Postal Service and certificated air carriers, have there been any changes in either the volume of activity or the resources committed to the Postal Rates Program?

ANSWER:

There has been some increase in the level of activity in setting international and intra-Alaska mail rates due to the increase in the number of certificated carriers providing intra-Alaska and international mail service. Also, because of the change in the number and type of carriers providing intra-Alaska Bush service, a mail rate investigation has been initiated to establish a bush service mail rate and adjustment factors consistent with the present bush service and cost levels.

Tariff Computerization

QUESTION:

What is the Tariffs Division's current staffing level and work load demands? What is the current growth rate in tariff filings and special tariff permission applications?

ANSWER:

The Tariffs Division employs 11 professional, 1 clerical, and 1 secretarial personnel. We estimate that the Department is currently receiving approximately 30,000 tariff changes per day. In 1985, our initial survey indicated 25,000 tariff changes submitted daily. Currently, there are about 145 tariffs totalling over 20,000 pages. Individual tariffs range in size from a few pages in length to over 2,000 pages. Approximately 95% of all tariff filings are submitted as special tariff permission (short notice) applications which we attempt to handle within a 24-hour period. We now receive approximately 800 applications each month.

The current growth rate for tariff filings and special tariff permission applications is dramatic. In 1985, tariff filings increased by approximately 18% over 1984. During April 1986, tariff filings and special tariff permission applications were up 27% and 11% respectively, over April 1985 levels. We fully expect this growth trend to continue. Further, in the twenty year period between 1962 and 1982, tariff filings escalated by 616%. Discounting the deregulation of domestic transportation, the percentage growth rate over 1962 is still a staggering 400%, while the staffing level has declined by 40% over the same period. Accordingly, the number of filings per employee has increased four-fold over the last 10 years.

QUESTION:

At this time, why have you proposed to implement an automated system for international airline tariff filing?

ANSWER:

We have an opportunity to lessen the regulatory burden on the aviation industry by automating the laborious and unjustifiably expensive international tariff structure. Comments from the aviation industry to the Advance Notice of Proposed Rulemaking (50 FR 33452, August 19, 1985) indicate that they are extremely enthusiastic and supportive of our intent to automate the current tariff system.

The Department of Transportation is managing an avalanche of paper known as the international tariff filing system. The Federal Aviation Act requires both United States and foreign carriers to file their international passenger fares, cargo rates, and related rules with the Department, and charges the Department with the responsibility for reviewing and approving or disapproving these tariff filings, as well as maintaining the public tariff files. All of this done manually, with a filing and review system that dates back to at least 1887, and in the last 100 years it has remained relatively unchanged. We have streamlined our administrative procedures in order to expedite processing and increase productivity in managing our manual tariff system. We have also designed various automated systems which are utilized to satisfy some of our analytical requirements. These include the Standard Foreign Fare Level (SFFL) information, direct-service carrier data, foreign currency conversion tables, and the European Civil Aviation Conference (ECAC) structure and parameters. However, it should be apparent that quality must suffer as corners are cut to keep up with the ever-increasing workload requirements of this Division. At this time, we cannot envision the institution of any further techniques which will improve the manual tariff filing system. All major airlines and tariff filing agents have automated to some degree; the Department has not. As a result, the industry spends about $5 million a year to produce, file, and distribute paper tariff documents.

The tariff volume is enormous, and it has increased at an average rate of 6 percent per year over the last five years. That trend is likely to continue for the foreseeable future. Handling massive databases like this, with rapid changes and revisions, is precisely what computers are designed to do. The Department has gone as far as it can with the manual mode, without seriously compromising the integrity of the tariff system. The current international tariff filing method cannot serve the public, government, or the air transportation industry as efficiently or as effectively as an automated system.

QUESTION:

What is the total cost of the automated tariff system? What will the additional funding be spent on: contractors, computer time, addiditonal staff, hardware? Will this be a recurring cost?

ANSWER:

On June 21, 1985, the Department received a preliminary feasibility study and cost analysis report on automating the international tariff filing system. The report concluded that the cost to design, program, test, and document an automated system for the Department would be approximately $2.2 million over a five year period. The developmental costs for the proposed filing system were based on mainframe equipment currently available or as planned procurements for the Transportation Computer Center (TCC). The estimates did not include the purchase costs for additional mainframe equipment and software if needed.

The Department is currently engaged in developing, with internal resources, a pilot system which we hope to have in place no later than November of 1986. Depending on the outcome of this pilot project we will be able to determine how much work can be done in-house or if and to what extent consultants will have to be hired. Additionally, we are organizing an Advisory Committee, developing system requirements, functional specifications and a cost-benefit analysis for a complete automated tariff system. These should be completed by the end of September

The FY 87 budget request will allow us to begin developing the software and technical capabilities for implementing the filing and processing of passenger fare tariffs and special tariff permission applications. In addition, approximately $8,000 for computer charges will be incurred during the coding and testing of the computer programs. We intend to maximize our internal resources to the fullest extent possible in developing the system, and to hire temporaries to fill any void.

The proposed fiscal request represents a portion of the total cost for system development. The preliminary feasibility study estimated that operational costs would range from $16,600 per month, as the first step of development is completed, to $38,700 per month as the entire tariff system becomes operational. The development of the international tariff filing system will be accomplished in stages. For each stage of development we will review the implementation and design specifications to verify their accuracy. As each developmental stage is completed, a cost and time review will be performed to determine if budget estimates are correct.

QUESTION.

How will the automated tariff system benefit the public, government and industry?

ANSWER:

A cost-benefit analysis of the proposed system is currently being formulated by the Department. It is estimated that the analysis should be complete by the middle of June 1986. The Department can, however, anticipate benefits provided by the proposed automation:

a. Increase productivity;
b. Substantially reduce the paperwork burden on the government and industry;
c. Increase public access to Department tariffs;
d. Provide for better utilization of Department resources;

e. Facilitate the ability of the Department to monitor tariffs for indications of unlawful and/or illegal, anti-competitive pricing behavior;
f. Heighten the Department's ability to manage the tariff database to provide more complete, accurate, and timely data for use in bilateral and multilateral disputes/discussions which relate to pricing issues (plus other analytical procedures/purposes/needs);
g. Amplify our ability to analyze and process inter-carrier pricing agreements;
h. Expand our ability to manage tariffs for compliance with regulatory pricing policies; and
i. Provide better security for tariff information which, at present, is potentially vulnerable to fraud and/or abuse.

Licensing Workload

QUESTION:

How has the Department's regulatory workload changed from levels experienced by the CAB before sunset?

ANSWER:

The regulatory workload has increased since sunset as air transportation has flourished and staffing has declined. It is often overlooked that the last significant statutory activity to be abolished in the course of deregulation was domestic pricing regulation, which ended two years before sunset. International licensing, in particular, has been extremely active. CAB sunset in no way changed statutory requirements for licensing foreign airlines to serve the United States, or U.S. air carriers to serve abroad, or in other areas such as carrier fitness, mergers and acquisitions, international fares and rates, tariffs, etc. Although docketed applications have been filed at roughly the same rate since sunset as before, other regulatory workload has increased and many more cases now are controversial and difficult to process due to efforts by interested parties to test and modify old CAB policies. The following are illustrations:

Special and undocketed work has increased in quantity and complexity in the most significant programs. These programs are characterized by high volume of work and tight time constraints. In 1985 public charter prospectus filings, for example, which must by law be processed within 10 days, increased 7% over 1984.

Foreign carrier charter applications have become a major policy battleground for certain U.S. and foreign air carriers, making processing even more demanding than before sunset.

DOT's Inspector General recommended new procedures to tighten surveillance of air carrier compliance with the Department's insurance requirements. (This necessary measure was accomplished by diverting resources from docketed cases.) Also, see answers dealing with carrier fitness and tariffs areas.

QUESTION:

Shouldn't DOT be able, by streamlining procedures and absorbing overhead functions, to discharge its aviation economic regulatory duties with fewer personnel than the CAB required?

ANSWER:

Yes, and the Department has been and is doing so. Staffing for most regulatory functions is now below the sunset level. The Office of Aviation Operations, which handles all the ecomomic regulatory functions of the CAB except essential air service, is performing those functions with 15% less staff. However, most of the efficiencies that can be achieved legally have been. Compliance with statutory deadlines for certification of air carriers, examination of mergers, and processing of exemption requests has been become more difficult.

FUNCTIONS OF LICENSING PROGRAM

QUESTION:

What are the major functions of the licensing program for U.S. air carriers for international routes?

ANSWER:

The licensing program for U.S. carriers encompasses various types of operating authority and implementing procedures for the issuance of licenses to all fit and qualified applicants whose proposed international services would be consistent with the public interest or with the public convenience and necessity. There are three primary types of licensing functions that we employ:

The first is what we term Multiple Permissive Entry Cases. In those instances where a bilateral agreement permits or where a foreign country is otherwise receptive to competitive entry by U.S. carriers interested in operating on a particular foreign route, the Department applies its policy of granting permissive authority to all fit applicants seeking the authority at issue. Depending on the circumstances, the carrier may serve a particular foreign point or foreign country from any point or points in the United States.

The second type of licensing function we employ is termed Carrier Selection Cases. Where a bilateral agreement between the United States and a foreign government provides that only one U.S. carrier can operate in a particular city-pair market and more than one carrier applies for that authority, the Department must select the best carrier from among the competing applicants. An example of a current carrier selection case is the Denver-London Route Proceeding where we may choose only one of the two applicants for the route because our bilateral agreement with the United Kindgom permits the United States to designate only one carrier on this particular route.

The third type of licensing function is termed Exemption Authority. Under the flexible statutory requirements provided in the Airline Deregulation Act (ADA), the Department can quickly confer temporary exemption authority on U.S. air carriers where such authority is consistent with the public interest. The more permissive ADA exemption standard has allowed the Department to grant authority expeditiously to meet service needs and to implement new route rights obtained from foreign governments in negotiations.

An example of a recent grant of temporary exemption authority involved Pan American's request for authority to operate between New York and Oslo, Norway and Helsinki, Finland via London, and to provide service between New York and Stockholm, Sweden via Frankfurt, Germany. We granted Pan American exemption authority so the carrier could immediately begin its proposed service in time for the peak summer travel season.

Another area of our licensing program involves the protection of U.S. international carriers against foreign anticompetitive practices. In cooperation with the Department of State, the Department of Transportation has a mandate under the Federal Aviation Act and the International Air Transportation Fair Competitive Practice Act to counteract foreign government or foreign carrier restrictive, discriminatory or unfair competitive practices. These practices typically involve restrictions on U.S. carrier operating rights or fares in violation of a bilateral air transport agreement, or are otherwise contrary to principles of comity and reciprocity. They also may involve discriminatory or unfair competitive practices involving air carrier operations.

QUESTION:

What are the formal airline regulatory cases pending at the Department that may be set for hearing?

ANSWER:

At the present time, we have five proceedings that are in various stages of the hearing process, and one case that we will soon be instituting.

The first of the four ongoing cases involves the selection of a new carrier or carriers to provide combination (passengers, property and mail) service to Japan. The U.S.-Japan Gateways Case (Docket 43575) was instituted following the negotiations with Japan in 1985 which resulted in the United States obtaining new route rights to Tokyo. A formal oral evidentiary hearing was completed in this case during March. The ALJ's Recommended Decision is due in mid-May, and the Department will then make a final decision, probably in July.

The second ongoing proceeding is the Denver-London Route Proceeding (Docket 43687). This case was instituted to seek a replacement carrier to operate nonstop combination service between Denver and London. Since two carriers applied for the route (Continental and People Express), it was necessary to conduct an oral evidentiary hearing proceeding to choose one of the two carriers since, under our aviation agreement with the United Kingdom, the United States can authorize only one carrier on the Denver-London route. A hearing before an ALJ was conducted April 23-24. The Department anticipates making a final determination in this case in late summer or early fall.

There are three ongoing proceedings involving airline acquisitions. The hearing in the NWA-Republic Acquisition Case (Docket 43754) has been held and the final Department decision is due by July 31. The Texas Air-Eastern Acquisition Case (Docket 43825) was also set for a hearing which is scheduled to begin May 27. A final Department decision is due by August 31. The TWA-Ozark Acquisition Case (Docket 43837) has been set for hearing to begin June 16, with a final Department decision to be reached by September 12.

One of the possible alternatives resulting from our 1985 Memorandum of Understanding with Japan is the selection of a carrier to provide small package delivery service between the U.S. and Japan. We will very shortly be instituting an oral evidentiary hearing proceeding to select a carrier to provide such service in the U.S.-Japan Small Package Service Proceeding.

AIR CARRIER FITNESS

QUESTION:

How many persons currently handle the Department's air carrier fitness function? How does this compare to the CAB's staffing level?

ANSWER:

At the present time, a total of 9 staff-years are spent on all fitness functions (initial fitness cases and our increasingly important continuing fitness monitoring efforts). This compares to approximately 17 staff years at the CAB shortly before that agency's sunset in December 1984. Some of this decrease (approximately 5-6 staff years) is due to adoption by the Department of less formal procedures for handling fitness cases. Thus, it was the CAB's policy to set the majority of new fitness cases for oral evidentiary hearing before Administrative Law Judges, necessitating additional staff resources. The Department has adopted a policy of setting only those cases for hearing that involve substantive issues that cannot be resolved on the written record. Only one such case has been set for hearing since the Department assumed this responsibility. The decrease also reflects loss of staff through retirements and the like who have not been replaced, leading to an extremely lean staff to cover this function.

QUESTION:

What is the yearly workload of fitness cases? How does this compare to that at the CAB? On average, how much time does it take to process an application that requires a fitness review?

ANSWER:

At the beginning of 1985, the Department had a backlog of 54 initial and continuing fitness cases that had not been completed by the CAB prior to its sunset. During the year, an additional 104 cases were received, bringing the total to 158 or approxmately 17.5 cases per assigned staff year. By the end of the year, 98 cases had been completed (i.e., granted, denied, or dismissed), leaving a backlog for the beginning of 1986 of 60 cases. This compares to 213 cases that were processed in 1984 by the CAB, or approximately 12.5 cases per assigned staff year. On average, it takes the Department 6 months to process a new fitness application compared to 4-5 months for the CAB.

QUESTION:

In recent months, several air carriers have ceased operations, leaving consumers with unused and, perhaps, unrefundable tickets. In addition, the number of recent airline crashes has raised the possibility of a connection between a carrier's financial condition and its ability to operate safely. What steps are being taken to increase the surveillance of the financial condition of air carriers? Are staffing levels sufficient to handle this function?

ANSWER:

The Department's staff has recently initiated action on a number of fronts in an effort to monitor the continuing fitness--including financial condition--of carriers. We have been working to increase and regularize our general fitness monitoring system by improving and systematizing our lines of communication with the FAA and other offices within the Department. We have identified a number of sources of information which could indicate carriers in need of a deeper continuing fitness analysis. We currently have 37 formal and informal DOT-initiated fitness investigations pending either because of substantial changes the carriers have undergone or because of apparent financial or compliance problems revealed by our indicators.

With respect to start-up carriers, we have continued the practice established by the CAB of awarding certificates to carriers prior to the completion of their acquisition of financing. However, because we are aware that the actual funds obtained don't always match those forecast in their applications, we have recently established a procedure where we will not allow the certificate to become effective until after we have verified that the forecast financing has been obtained or appropriate explanations have been provided to remove any question regarding the sufficiency of the available financial resources (e.g., initial service plan has been scaled back). We have also refined and strengthened our evidence requirements for new applicants to require more detailed information, particularly in the financial area, in support of the applicant's fitness.

Another of the problems facing us has been the large number of carriers that remain dormant for long periods. During the periods of dormancy, they sometimes undergo substantial changes which cannot be detected through routine reporting systems. Individuals seeking to circumvent our fitness process have attempted to obtain authority through the acquisition of these carriers. To alleviate this problem and to reduce the universe of carriers to be monitored, we have drafted a notice of proposed rulemaking which would cause certificates of dormant carriers to be revoked automatically if not used for a one-year period. The rule would also apply to carriers that operate, cease, and do not recommence service within one year. In the meantime, we have been writing letters to non-operating certificated carriers and asking that they provide us with current plans to become operational including actual financing data and other relevant fitness related information. We have been revoking or suspending certificates where carriers either plan not to resume service or are unable to show that they meet the continuing fitness requirement. Since the beginning of this year orders have been issued revoking certificates of 30 carriers.

Current staffing levels are sufficient to handle both the initial and continuing fitness functions but with built-in delays. It is unclear however how long we can maintain our current level of fitness monitoring given the increasing number of participants in the industry.

BILATERAL AIR NEGOTIATIONS

QUESTION:

When you speak of bilateral air negotiations, how often do we have to talk to these foreign governments about air service and what kinds of issues are discussed?

ANSWER:

The U.S. negotiating schedule, as a result of our constant push to improve the competitive environment in international airline services, has been particularly intense over the past several years. For example, during the calendar year 1985, we conducted a total of 48 rounds of negotiations with foreign trading partners such as the United Kingdom, Japan, Canada, Argentina, Brazil, France, and the Soviet Union. So far this year, that is through the end of April, we have held 27 rounds of negotiations. As mentioned earlier, the vast majority of these negotiations are conducted to improve the competitive environment for U.S. airlines so that the traveling and shipping public in the United States can be better served. More specifically, a large number of the more recent rounds of talks have been to seek resolution of what we call "doing business" problems which prevent U.S. airlines from having a fair and equal opportunity to compete in the foreign marketplace. Several countries have rules which adversely affect our carriers in computer reservations systems, in airport access, in the ability to convert and remit foreign exchange, and in groundhandling. Where the United States identifies such problems, we devote as many resources as feasible, in terms of time and personnel, towards finding a solution to the problem. In addition, the United States negotiates new route rights for U.S. and foreign airlines in order to create new services to more and more communities in the United States. Yet in other instances, we seek greater pricing freedom so that consumers will be charged lower, more competitive fares and rates.

QUESTION:

Has the United States been successful in promoting its policies of more competition and better service to the customer with these foreign governments? Please give some examples.

ANSWER:

The United States has had some notable successes in obtaining more competitive bilateral agreements with some of its trading partners, such as Germany, the Netherlands, Belgium, Korea and several countries in the Caribbean and Central America. With these partners, we signed sweeping liberal revisions to our bilateral aviation agreements; in other instances, we have had to make progress step-by-step. Many countries are strongly resistant to U.S. pro-competitive policies that in essence say governments should simply stay out of the way of airline management initiatives to schedule, market and operate services. We are now starting to see others emulating our pro-competitive policies. For example, the British are pursuing more competitive policies with their European trading partners even though they have yet to agree to more liberal pricing and capacity arrangements with the United States. The Japanese have relaxed their traditional policies concerning designation of airlines (that is allowing more than one national flag carrier to serve foreign routes). The Canadians are quickly deregulating many of their domestic airline services and we are hopeful these policies will spill across the border soon so that the United States and Canada can enjoy a virtually deregulated transborder aviation environment.

U.S. AND JAPAN AGREEMENT

QUESTION:

Please outline the interim U.S.-Japan agreement reached last year, and indicate exactly who "got" what in the agreement.

ANSWER:

Under the interim agreement signed May 1, 1985, the United States and Japan may each implement three new combination services between Japan and three U.S. cities, including up to two U.S. cities that have not enjoyed gateway status before now. A small package express service may be operated in lieu of one of the new combination services. The United States may designate up to three airlines not currently serving Japan to provide these services. The interim agreement also authorizes Nippon Cargo Airlines (NCA) to fly six weekly roundtrips in all-cargo service between Tokyo and San Francisco/New York. In addition, the agreement provides for an increase in services between Japan and the two U.S. destinations of Guam and Saipan.

The Department is now in the final stages of a proceeding to determine which cities should be selected for new service to Japan and which carriers should be chosen to operate the new services. A final decision will be issued this summer. A proceeding to select a carrier to operate a small package express service is now beginning. Under the interim agreement, such a service may begin operating April 1, 1987.

QUESTION:

Please outline the current U.S.-Japan disagreement over Fifth and Sixth Freedom Services, and describe the Department's proposed review of that issue?

ANSWER:

Japan Air Lines (JAL) carries large amounts of cargo between countries in Asia (other than Japan) and the United States. According to our data, nearly half of JAL's cargo carriage to/from the United States is to/from third countries in Asia. Japan's heavy reliance on third country (Sixth Freedom) traffic stems from its geographic location that makes Japan a natural intermediate stop on flights between many Asian cities and the United States. The United States, on the other hand, does not have the geographic advantage that Japan does and, as a result, U.S. carriers transport very little third country traffic to/from Japan via the United States. One opportunity for U.S. carriers to carry such traffic would be to operate Europe-Anchorage-Tokyo services. However, Japan argues that such operations would rely overwhelmingly on the carriage of Europe-Japan traffic and would, therefore, not be in keeping with the general principles set forth in the bilateral agreement. If Japan would allow unrestricted Europe-Japan cargo flights via Anchorage, U.S. carriers would still carry a far smaller percentage of third country cargo than does JAL.

The issue of Europe-Anchorage-Tokyo cargo services by U.S. carriers has been discussed during several rounds of aviation talks with Japan, including the most recent series of talks concerning Japan's request for additional frequencies for Nippon Cargo Airlines. Japan has refused to concede on this issue. In view of Japan's adamancy on this issue, the Department of Transportation instituted an investigation of JAL's reliance on cargo traffic between the United States and Asian points other than Japan. However, this investigation was terminated at the request of the Department of State for foreign policy reasons. We will continue to pursue this issue.

QUESTIONS SUBMITTED FOR THE RECORD BY MR. LEHMAN

COAST GUARD PROPERTY

QUESTION:

I understand that the Coast Guard, for some time, has been considering whether to exchange a parcel of Coast Guard property at San Mateo Point, California, with a private company which has agreed to provide the Coast Guard with an equal value of build-to-suit personnel housing or other Coast Guard designated facilities. I also understand that the Coast Guard has a significant need for housing in the Long Beach and San Diego areas of California and that both the Eleventh Coast Guard District and a Board of Review empanelled by the Chief of Staff have recommended that the Coast Guard proceed with the transaction. We have recently learned, however, that the transaction has been suspended because the Coast Guard has decided to "excess" the property and transfer it to the GSA, without compensation, for disposition as surplus federal property.

ANSWER:

A decision has not yet been made on the disposition of the San Mateo property. We are still looking at all the alternatives to determine the one which will be most beneficial to the Government.

QUESTION:

If the Coast Guard fails to proceed with the transaction, wouldn't the Coast Guard have given up, without compensation, a valuable asset which could be used now to acquire needed housing or other facilities, and wouldn't it then be necessary for the Coast Guard to request new appropriations from this Committee in the future for those very same facilities?

ANSWER:

Under any of the options being considered the property would either remain with the Federal Government or, if sold, funds would be returned to the U. S. Treasury. Therefore, the Government is not foregoing a valuable property. We believe that there is an advantage to disposing of the property through the General Services Administration in that the property would be placed on the open market for sale, which would likely bring the greatest return to the Government. In the event that additional housing becomes necessary, we would consider a range of options including preparing the appropriate justifications to come to the Committee.

Mr. **Lehman**. That concludes our questions. We hope perhaps to meet together again soon.

Thank you for being here.

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